DOCUMENT RESUME

ED 389 866 CE 070 340

AUTHOR Knoblauch, Jan; And Others
TITLE Training in the Motor Vehicle Repair and Sales Sector in Denmark. Report for the FORCE Programme. First Edition.
INSTITUTION European Centre for the Development of Vocational Training, Berlin (Germany).
REPORT NO ISBN-92-826-9689-8
PUB DATE 95
NOTE 74p.
AVAILABLE FROM UNIPUB, 4611-F Assembly Drive, Lanham, MD 20706-4391 (catalogue no. HX-86-94-513-EN-C: 8 European Currency Units).
PUB TYPE Reports - Research/Technical (143)

EDRS PRICE MF01/PC03 Plus Postage.
DESCRIPTORS Adult Education; *Auto Mechanics; Case Studies; Continuing Education; Educational Demand; Educational Needs; Educational Practices; Educational Quality; Educational Supply; *Educational Trends; Education Work Relationship; Employment Practices; Employment Qualifications; Financial Support; Foreign Countries; National Surveys; Needs Assessment; *On the Job Training; Program Costs; Program Development; Program Effectiveness; *Retailing; *Sales Workers; Tables (Data); Trainers; *Training Methods; Trend Analysis; Work Environment
IDENTIFIERS *Denmark

ABSTRACT

Training in Denmark's motor vehicle repair and sales sector was examined in a study that included the following approaches: review of the sector's structure/characteristics, institutional/social context, changing conditions and their implications for skill requirements and training, and available initial and continuing vocational education and training; in-depth case studies of four auto repair shops and dealerships; and identification of economic, employment, and training trends. It was discovered that increasing competition within the sector has led to increasing emphasis on customers and, consequently, increased awareness that well-trained, competent workers are essential to maintaining customer loyalty. Decreasing vehicle sales and decreased need for vehicle repairs have led to falling wages and a decrease in the number of available positions in the sector. Availability of continuing vocational training varies considerably throughout the sector. Only authorized dealers and repair shops have access to importers' courses, and importers lack the capacity to meet dealer interest in their courses. Despite recent collective bargaining agreements stipulating employees' right to at least 1 week of continuing vocational training annually and despite the need for workers to upgrade their skills in response to technological advances, public continuing vocational training activities have decreased in recent years. (Twenty-three tables are included.) (MN)

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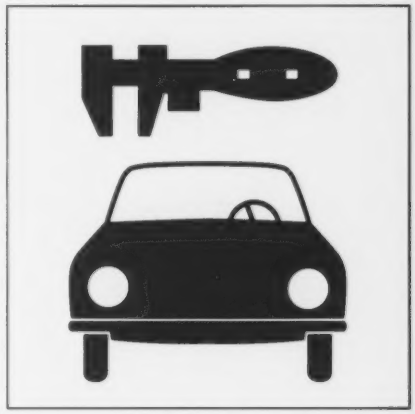
DENMARK
REPORT

MOTOR VEHICLE REPAIR AND SALES SECTOR



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MOTOR VEHICLE REPAIR AND SALES SECTOR

TRAINING IN THE MOTOR VEHICLE REPAIR AND SALES SECTOR IN DENMARK

REPORT FOR THE FORCE PROGRAMME

drawn up by
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Danish Technological Institute

1992

First edition, Berlin 1995
Published by:
CEDEFOP – European Centre for the Development of Vocational Training,
Jean Monnet House, Bundesallee 22, D-10717 Berlin
Fax 49-30 + 88 41 22 22
Tel. 49-30 + 88 41 20 • Telex 18 41 63 eucen d
The Centre was established by Regulation (EEC) No 337/75
of the Council of the European Communities

Cataloguing data can be found at the end of this publication.

Luxembourg: Office for Official Publications of the European Communities, 1995

ISBN 92-826-9689-8

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Printed in the United Kingdom

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Commission of the European Communities
TASK FORCE
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ACKNOWLEDGEMENTS

This study was carried out in the framework of the European motor vehicle repair and sales sector, within the EC FORCE programme and conducted by a central team made up of:

Kaj Olesen and Bruno Clematide, DTI – Denmark
Oriol Homs, CIREM – Barcelona
Georg Spöttl, ITB – Bremen
with the participation of Skevos Papaioannou, INE – Greece

under the responsibility of Felix Rauner, ITB – Bremen and in close collaboration with Tina Bertzeletou, CEDEFOP.

The project team would like to thank the companies who gave access for research, and whose staff provided the information and help which enabled us to write the case studies. We very much appreciate the time and effort invested so generously.

We would also like to thank the employers' organizations and trade unions, and their representatives, who contributed to the research by making suggestions for case studies, attending meetings and commenting on the draft report.

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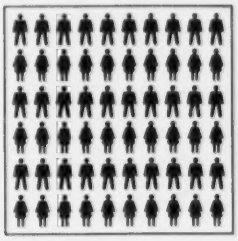
PART 1:



1. Description of structure
2. Structure and characteristics of the motor vehicle sector
3. Institutional and social context
4. Employment and labour
5. Changing conditions and their implications for skill requirements and training
6. Training and recruitment

1. DESCRIPTION OF STRUCTURE

In Denmark the motor vehicle repair and sales sector is a small sector. 46,000 people are employed in this sector, that is less than 2 per cent of all employed. Apart from a modest production of environmentally 'friendly' electric motor vehicles Denmark has no motor vehicle production. All newly registered vehicles are imported.

Due to the lack of any motor vehicle production, the Danish motor vehicle trade comprises repair shops and sales outlets. The trades represented are:

- Importers
- Distributors, dealers and authorized brand repair shops
- All round repair shops
- Specialized repair shops

Dealers and authorized brand shops account for the biggest number of occupations whereas the all round repair shops account for the greatest number of firms (cf. Table 1).

By way of introduction, the differences between the three repair shops must be described:

Authorized brand repair shops have been authorized by one or more motor vehicle brands. The majority are connected to dealers of new motor vehicles, whereas a minor part has the authorization for one or more brands without actually selling these brands.[1]

All round repair shops are not specialized in certain types of repair and they are not connected to any specific brand.

Specialized repair shops have specialized in certain types of repair jobs, e.g. motor vehicle paint, body work, electricity work, etc.

By far the majority of repair jobs are carried out in one of the above mentioned repair shops. However, repair jobs may be carried out also at petrol stations' repair shops. Typically, these repair jobs are small ones such as oil change, renewal of tyres, renewal of bulbs. According to Centralforeningen af Motor vehiclereperatører i Danmark, the Danish Motor Vehicle Repair Shop Association, the petrol stations account for less than 10 per cent of the total repair turnover. Further, the distribution of employed motor vehicle mechanics illustrates the petrol stations' limited and declining importance in respect of repair jobs; only 6 per cent of all motor vehicle repair workers are employed at petrol stations. Throughout the 1980s[2] the petrol stations' share has been decreasing. Sale of fuel is the primary objective of the petrol stations. More than half of the employees at petrol stations are unskilled workers, young boys, school attendants, students, etc. and only 7 per cent are skilled workers.

The petrol stations are not included in the sector analysis of the Danish motor vehicle trade. Statistically, it is not possible to separate the motor vehicle repair activities from other activities in a petrol station. As the petrol stations employed more than 11,000 persons in 1990, it would be misleading to include them in a description of the motor vehicle trade. Furthermore, only a small proportion of the petrol station activities has to do with motor vehicle repair (and sale). Hence, we decided not to include them in this description.

Table 1 – Number of firms and people in different jobs in the motor vehicle sector

	Number of employed		Number of firms	
	Absolute	Relatively	Absolute	Relatively
Importers	8,338	18%	1,275	10%
Dealers/brand shops	22,140	49%	4,232	33%
All-round shops	11,032	24%	5,693	45%
Specialized shops	4,165	9%	1,511	12%
Total	45,675	100%	12,711	100%

Source: Danmarks Statistik

[1] The authorized brand repair shops that are not connected to a dealer are registered as an all round repair shop. Statistically, however, it is not possible to separate them.

[2] Source: Dansk Metalarbejderforbund: Autorapport 1991. Autobranchen og dens arbejdsmarked nu og i fremtiden. København 1991.

2. STRUCTURE AND CHARACTERISTICS OF THE MOTOR VEHICLE SECTOR

1.

As mentioned already, Denmark has no motor vehicle production. All new registered vehicles are imported. The survey below shows the distribution broken down by brands:

Newly registered vehicles in Denmark

	1987	1988	1989	1990	1991	1987	1988	1989	1990	1991
	No.	No.	No.	No.	No.	%	%	%	%	%
Alpha Romeo	698	399	197	283	278	0.56	0.45	0.25	0.35	0.33
Audi	1,308	1,133	979	823	1,448	1.05	1.28	1.25	1.02	1.72
BMW	1,971	1,651	1,333	934	1,087	1.59	1.86	1.70	1.15	1.29
Chevrolet, Buick m.A.	3	21	28	53	99	0.00	0.02	0.04	0.07	0.12
Citroen	7,804	5,236	4,765	4,834	4,740	6.29	5.91	6.07	5.97	5.63
Dacia	139	51	5	0	0	0.11	0.06	0.01	0.00	0.00
Daihatsu	2,146	1,283	857	783	681	1.73	1.45	1.09	0.97	0.81
Fiat	7,060	4,643	4,131	4,082	3,651	5.69	5.24	5.27	5.04	4.34
Ford	13,861	10,709	8,628	8,407	8,335	11.17	12.09	11.00	10.39	9.91
FSO	624	206	147	283	41	0.50	0.23	0.19	0.35	0.05
Honda	2,611	1,619	1,023	1,858	1,775	2.10	1.83	1.30	2.30	2.11
Isuzu	2	5	2	3	1	0.00	0.01	0.00	0.00	0.00
Jaguar/Daimler	57	28	18	23	16	0.05	0.03	0.02	0.03	0.02
Lada	3,977	2,658	1,902	1,469	1,234	3.20	3.00	2.42	1.82	1.47
Lancia	125	92	103	111	54	0.10	0.10	0.13	0.14	0.06
Mazda	11,543	9,251	6,719	8,326	7,740	9.30	10.44	8.57	10.29	9.20
Mercedes-Benz	1,618	1,201	946	1,016	792	1.30	1.36	1.21	1.26	0.94
Mitsubishi	2,428	1,417	1,366	2,013	8,037	1.96	1.60	1.74	2.49	9.55
MG	235	47	41	19	0	0.19	0.05	0.05	0.02	0.00
Nissan	6,371	4,621	3,613	4,318	6,411	5.13	5.22	4.61	5.34	7.62
Opel	17,955	11,900	10,830	10,372	9,915	14.47	13.43	13.81	12.82	11.78
Peugeot	5,884	6,743	6,656	6,541	6,089	4.74	7.61	8.49	8.08	7.24
Porsche	13	5	6	2	6	0.01	0.01	0.01	0.00	0.01
Renault	427	549	1,168	1,373	1,657	0.34	0.62	1.49	1.70	1.97
Rover	354	148	65	75	6	0.29	0.17	0.08	0.09	0.01
Range/Land Rover	116	84	64	28	44	0.09	0.09	0.08	0.03	0.05
Saab	1,000	636	848	991	953	0.81	0.72	1.08	1.22	1.13
Seat	1,030	345	54	101	240	0.83	0.39	0.07	0.12	0.29
Skoda	3,067	1,849	2,334	1,910	1,687	2.47	2.09	2.98	2.36	2.00
Subaru	363	364	190	241	248	0.29	0.41	0.24	0.30	0.29
Suzuki	171	366	304	519	662	0.14	0.41	0.39	0.64	0.79
Toyota	14,808	10,172	10,749	10,976	10,034	11.93	11.48	13.70	13.57	11.92
VW	8,239	6,015	5,736	6,043	4,404	6.64	6.79	7.31	7.47	5.23
Volvo	4,429	2,639	2,466	1,967	1,558	3.57	2.98	3.14	2.43	1.85
Wartburg	782	297	125	0	0	0.63	0.34	0.16	0.00	0.00
Yugo	838	193	11	47	174	0.68	0.22	0.01	0.06	0.21
Others	40	27	34	89	49	0.03	0.03	0.04	0.11	0.06
Total	124,097	88,603	78,443	80,913	84,146	100	100	100	100	100
Index (1987 = 100)	100	71.40	63.21	65.20	67.81					

Source: Deloitte & Touche

The survey shows that Toyota and Opel make up the largest share of newly registered motor vehicles. In 1991 they accounted for 12 per cent of all newly registered motor vehicles. The distribution of countries of origin is as follows: 51.4 per cent are imported from EEC countries, 41.8 per cent are from Japan, 6.3 per cent are imported from other European countries and 0.5 per cent from USA. The Japanese brands are gaining increasing market shares, at the expense of non-EEC European brands. During the period from 1984 to 1991 the Japanese increased their market shares in Denmark from 32.7 per cent to 41.8 per cent, whereas the non-EEC European countries experienced a reduction of their market shares from 13.0 per cent in 1984 to 6.3 per cent in 1991. During the same period the EEC countries market shares decreased slightly from 52.5 per cent to 51.4 per cent.

Apart from passenger vehicles, each year vans, trucks, buses and motorbikes are registered for the first time. New registrations in 1991[3]:

Vans:	17,123
Trucks:	5,953
Buses:	370
Motorbikes:	1,651

The total amount of motor vehicles for 1991 is distributed as follows:

Passenger vehicles:	1,593,960
Vans:	210,768
Trucks:	88,259
Buses:	7,429
Motorbikes:	42,500

There follows a description of the characteristics of the Danish motor vehicle trade. An account will be given of the personnel profile, firm structure, employment structure and the structure of basic and continuing vocational training.

To summarize, the analysis shows that:

- the motor vehicle trade employs men,
- the motor vehicle trade employs relatively many young people,
- the repair shops have a high level of personnel turnover,
- the motor vehicle trade expects a great deal from worker's qualifications, only very few unskilled workers are employed,
- the level of activity is very sensitive to market conditions,
- the motor vehicle trade has continued to face low economic growth with reductions in the activity level. The number of firms has been quite stable but both turnover and the number of employed have been reduced within a short time. Considerable structural changes must therefore be expected. The repair and distribution units will become fewer in number but larger in size,
- the motor vehicle sector will have to face considerable changes in the market conditions. Quality and service will be still more vital parameters of competition,
- the motor vehicle sector will have to seriously invest in continuing further education and training, especially to keep track with the increased speed of the technological development within the motor vehicle trade. New technologies are applied in the motor vehicles as well as in the instruments and tools for testings and repairs,
- the labour market partners play a decisive role when it comes to dimensioning the effort of basic and continuing education within the motor vehicle trade and they have a major say in the content of the education and training programmes offered,
- the basic education system is characterized by the fact the it provides very broad qualifications that ensure the participants' employment possibilities within a wide variety of trades,
- the majority of all further vocational training activities within the motor vehicle sector in Denmark is organized by the motor vehicle importers,
- authorized motor vehicle dealers and authorized repair shops, i.e. brand shops have access to the motor vehicle importers' courses. Unauthorized dealers and repair shops have to make do with the public offers of further education and training. This fact stresses the brand dealers' and brand repair shops' already favoured market positions,
- during recent years the public further education activities directed specifically towards the motor vehicle sector have been declining both in terms of the amount of courses offered as well as the number of participants.

The sector analysis reveals that *structural changes* are taking place in the Danish motor vehicle sectors: Repair shops with close connections to one or more motor vehicle brand marks undertake an increasing amount of repair jobs at the expense of the small all round repair shops that do not have the same access to the latest technology. The continuous development in technology of both products, production and repair is another factor that reduces the number of employees needed within motor vehicle repair.

The analysis revealed how *market fluctuations* affect the Danish motor vehicle sector: Recession since 1986 has resulted in smaller firms in all branches of the motor vehicle sector. The firms have not been reduced in number, but each firm's turnover has fallen, as has the number of employees per firm.

It seems obvious that a closer link between importers/dealers and repair shops will soon be established. The development within motor vehicle repair firms shows that this is happening already.

[3] Source: Automobil importørernes Sammenslutning and Motorcykelbranchens Landsforbund.

Experiences from Japan seem to show that this is the right way. The closer link between producer, on the one hand and dealer and repair shops, on the other hand facilitates a more rapid interface between producer and consumer. Consumer signals and needs may be incorporated faster in the development of new models. For instance, as mentioned already, Japanese motor vehicle brands still constitute a larger share in the sale of new motor vehicles in Denmark.

Producers' and dealers' demands for continuing vocational training courses for employees in repair illustrate the closer connection that has been forced upon the sector by the increased application of technology in motor vehicles and tools.

Summarizing conclusions on the future development of the motor vehicle sector maintain that everything points in the direction of increased application of new and advanced technology. Therefore, education and training will become the key topic for future activities in the Danish motor vehicle sector. We should expect a considerable increase in continuing vocational training efforts.

3. INSTITUTIONAL AND SOCIAL CONTEXT

1.

On the Danish labour market, issues on wages and working conditions are regulated through collective bargaining agreements to be renegotiated every two years. This applies to the motor vehicle sector, too. Here issues on wages, weekly working hours etc., are agreed upon through negotiations between the organizations representing employers and employees, respectively.

In Denmark a series of employer and employees' organizations represent each side of the Danish labour market. Both employers' and employees' organizations are organized in different central organizations. Some of the biggest and most powerful central organizations are Dansk Industri (DI), an association of Danish industrial employers' organizations, and CO Industri, an association of Danish industrial workers' organizations. CO Industri and Dansk Industri are the parties that negotiate the collective agreements for the motor vehicle sector. DI represents, among other organizations, Motorbranchens Arbejdsgiverforening, the Danish Motor Vehicle Industry's Employers' Association. Among others, CO Industri represents Dansk Metalarbejderforbund, the Union of Metal Workers in Denmark and Specialarbejderforbundet i Danmark, the General Workers Union in Denmark.

DI and CO negotiate the collective agreements for that part of industry represented and covered by their member organizations. They both cover the motor vehicle sector. Each organization is represented in different negotiation committees where the basis for agreement negotiations are proposals and wishes from shop stewards and local associations. The central collective bargaining negotiations between DI and CO Industri only deal with general conditions such as rules concerning dismissals, rules concerning shops stewards, matters concerning the apprenticeship system, and overtime payment.

The general agreements are supplemented by local agreements that are negotiated locally in the firms. Typically local negotiations deal with the fixing of personal bonuses and piece-meal rates.

When members' working conditions of the different employees' and employers' organizations' are negotiated together in the central agreement between DI and CO Industri, the conditions are negotiated separately at firm level for each individual organization.

However, not all organizations are represented in the central organizations mentioned above. For instance, within the motor vehicle sector, the employers' organization Sammenslutningen af Karosseribyggere og Motor vehicleoprettere, SKAD, is not a member of the DI. This means that each employee organization has 'private' agreement negotiations with SKAD to settle matters of wage and working conditions for their members. Thus, these negotiations take place between SKAD and Dansk Metal, between SKAD and SiD, between SKAD and Kvindeligt Arbejderforbund i Danmark (KAD)Women Workers' Union in Denmark, and so forth. For instance, Dansk Metal, the Union of Metal Workers in Denmark in Denmark, has between 50 and 70 agreement negotiations parallel to the central agreement negotiation between DI and CO Industri.

Since 1991 issues of continuing vocational training have started to become part of the negotiations on the central agreements. Agreements on one week of continuing vocational training per year per employee have been established in several areas. Thus, the members of CO Industri, including employees within the motor vehicle sector, have obtained an agreement-guaranteed right to one week of continuing training per year. In principal all employees with a minimum of one year of seniority are entitled to this training right. However, so far, not all of them have made use of this right. The right and its appliance is still too fresh to serve as a basis for general conclusions and evaluations.

Please see Chapter 6 Training and Recruitment for a further description of educational and continuing vocational training issues within the motor vehicle sector and the labour market partners' influence on this area.

4. EMPLOYMENT AND LABOUR

1.

The motor vehicle trade is a typically male occupation

From an international perspective, the Danish labour market is characterized by a very high participation of women in the labour market. Approximately the same number of men and women are employed in the Danish labour market. However, there are big differences as to where men and women are employed. Typically, men are employed in the production sectors, whereas women, anything but equal, are employed in the public and services sector. It may be said that the Danish occupational structure is divided into men's occupations and women's occupations. The motor vehicle trade is very definitely a men's occupational area.

Table 2 – Employment broken down for men and women. 1990

	Men	Women
Importers	79%	21%
Dealers/brand shops	86%	14%
All-round shops	85%	15%
Specialized shops	88%	12%
Total	85%	15%
Other sectors	54%	46%

Source: Danmarks Statistik

As we will see later, the motor vehicle trade is a sector in which the traditional women functions, service and administration, are not as dominant as the traditional men's functions, i.e. repair jobs, welding, etc. Table 2 shows that among the importers a larger number of women are employed because this trade involves more administration and services than the others.

Many young people are employed in the motor vehicle trade

Compared to the general patterns on the Danish labour market, the persons employed in the motor vehicle sector are young (cf. Table 3).

Table 3 shows that only among repair jobs there is a dominance of young people between 15 and 24 years of age. In the repair firms one in three employees is under 25. Seen as a whole, on the Danish labour market 'only' one in five employees is under 25. The distribution of age among the employees in imports corresponds to that of other employees in Denmark.

Several factors explain the high number of young employees in the repair shops. Traditionally the

Table 3 – Employment broken down by age in 1990

	15–24	25–49	50+
Importers	21%	61%	18%
Dealers/brand shops	35%	53%	13%
All-round shops	32%	52%	16%
Specialized shops	30%	56%	14%
Total	31%	55%	14%
Other sectors	20%	59%	21%

Source: Danmarks Statistik

repair shops educate more young people than are needed.[4] An analysis carried out by Dansk Metalarbejderforbund, The Union of Metal Workers in Denmark, in 1991, shows that the number of skilled workers with a trade education and the number of employed persons with the education in question was stable, approx. between 34 to 35 per cent throughout the 1980s. This means that only one third of those who educate themselves with a view to following employment in the motor vehicle sector actually obtains employment in the sector. Almost two thirds leave the trade, either forced by unemployment, or because they want to apply their skills in other trades. Seen in this light, it is fair to claim that the Danish motor vehicle sector invests in education without getting full benefit from the work force it educates.

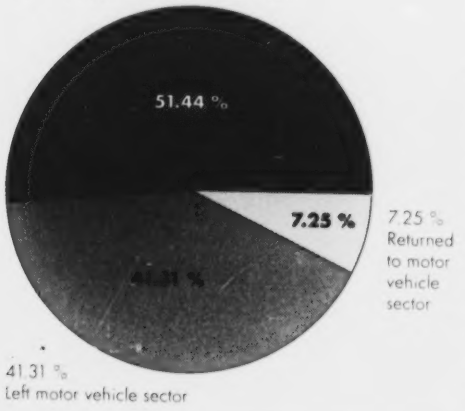
High rate of personnel turnover

The motor vehicle repair shops are characterized by a high rate of personnel turnover. According to the analysis from Dansk Metalarbejderforbund, the Union of Metal Workers in Denmark, over a period of six years at the middle of 1980s only one half of the motor vehicle mechanics in work remained employed within the motor vehicle sector (cf. illustration on next page).

Among other things, the high rate of personnel turnover can be contributed to the fact that the motor vehicle mechanics belong to the lowest paid group of skilled workers on the Danish labour market. They are often inclined to seek employment in other closely related sectors that can use their skills from the motor vehicle sector. The analysis also mentions bad and unsatisfactory working environments as a reason for the high personnel turnover, though generally the physical working environmental conditions have improved during the last ten years. First of all, the environmental working conditions have been improved in the authorized brand repair shops and bigger firms, especially due to the introduction of new technology.

4 Please see section 2 for a description of education and training in the motor vehicle trade.

Motor vehicle mechanics who were employed in the motor vehicle sector in 1983 compared with 1988



51.44% are still employed in the motor vehicle sector – 7.25% returned to the sector after other employment – 41.31% left the sector

Source: Dansk Metalarbejderforbund. Autorapport 1991

Also, a very important fact should be mentioned: The basic vocational education typically directed towards employment within the motor vehicle sector is very broad and touches areas that are in demand in other sectors too. A characteristic feature is that the basic training supplies skills within areas such as hydraulics, electronics, transmission systems, electric systems, etc. – all technical skills that are used in many other areas in other industrial sectors.

Thus, a great degree of flexibility is built into the motor vehicle mechanics trade and the basic education system.

To conclude the above statements on flexibility and the high rate of personnel turnover, it should be mentioned that motor vehicle mechanics who leave the motor vehicle trade find employment in a broad variety of sectors. This reflects a highly functional flexibility among the motor vehicle mechanics. The majority finds employment in sectors where they can use their technical skills. An analysis carried out by Dansk Metalarbejderforbund, the Union of Metal Workers in Denmark, states that the one third of the motor vehicle mechanics who changes trades find employment in production, and that those who find employment within agriculture, construction and services are presumed to be working with maintenance and service.

Regarding the motor vehicle mechanics' flexibility, it is worth mentioning that dismissed mechanics find new jobs very quickly, not necessarily within the motor vehicle sector, as mentioned earlier. Only very few remain unemployed for more than 21 weeks. Compared to the total male work force, their unemployment periods are considerably shorter; 12 weeks against 17 weeks.[5] However, during recent years unemployment amongst motor vehicle mechanics has increased as in other areas of the labour market. The fact that the unemployment rates among motor vehicle mechanics is lower and that they find new jobs relatively easily stresses their high degree of flexibility. The trend towards lower unemployment rates among the motor vehicle mechanics is illustrated by the following table:

Table 4 – The average unemployment rates for various occupations. Begin 1992

Occupation	% of unemployment
Motor vehicle mechanics	8.2%
Passenger vehicle mechanics	5.0%
Motor vehicle electronic mechanics	6.5%
Truck mechanics	9.0%
Body smiths	10.0%
Skilled workers/motor vehicle business	8.3%
Skilled workers/metal workers	9.7%

Source: Undervisningsministeriet, Erhvervsskoleafdelingen

The table shows that the unemployment among skilled workers in the motor vehicle sector is lower than that of skilled metal workers in general. Only motor vehicle body smiths have a higher unemployment rate. Among other things this may be due to the fact that their qualifications find limited application which again means that it is harder for the motor vehicle body smiths to find jobs in other sectors than it is for other job groups in the motor vehicle sector. They are not as flexible as the rest.

The motor vehicle sector demands a lot in terms of employee qualifications

One characteristic of the Danish motor vehicle firms is that they employ only a limited number of unskilled workers. On the Danish labour market 25 per cent of the persons employed are unskilled workers. In the motor vehicle sector only 7 per cent of the persons employed are unskilled workers (cf. Table 5).

Only very few employees in the motor vehicle sector do not have a vocational background. Most white-collar workers are educated as skilled workers or have attended further education. Typically, the sales staff has been educated within the motor vehicle sector, either as motor vehicle mechanics or as spare parts assistants. Most managers have a degree in economics or business management, and the majority of the

[5] Source: Dansk Metalarbejderforbund. Specialkørsler fra Danmarks Statistik

1.

Table 5 – Jobs and professional status. 1990

	Importer	Dealers	All round	Specialized	Motor vehicle Total	Others
Self-employed + spouses	4%	8%	35%	28%	16%	10%
Managers	11%	4%	1%	1%	4%	9%
Foremen	14%	9%	3%	3%	8%	13%
Other white collar workers	31%	19%	7%	5%	17%	25%
Skilled workers	18%	41%	36%	42%	35%	11%
Unskilled	12%	6%	6%	8%	7%	21%
Not defined	10%	13%	14%	13%	13%	11%
Total	100%	100%	100%	100%	100%	100%

Source: Danmarks Statistik

salaried employees (job functions are not defined) are young people who are actually educating themselves within the motor vehicle sector.

Table 5 shows that skilled workers dominate the motor vehicle sector – only importing firms employ more white-collar workers than skilled workers given the service and administration nature of their business. The high level of skilled workers is a result of the sector's high demands for vocational qualifications for repair and maintenance jobs. The motor vehicle sector is a high technology sector. The technology applied in instruments, tools and motor vehicles is advanced technology, and over the past decades the sector has undergone major technological developments. As we will see later in this analysis, they are not likely to decline in the future, in fact estimates predict that they will become even more marked.

Table 5 shows that in the repair shops there are in particular, many self-employed persons with assisting spouses, and a relatively small number of white-collar workers. This staff profile reflects the fact that the repair firms are generally very small businesses. The analysis by the Union of Metal Workers in Denmark, concludes that more than 50 per cent of the all round repair shops do not employ anyone but the owner, and that in more than 70 per cent of the all round repair shops the owner himself participates in the repair jobs.

The motor vehicle sector is very sensitive to market conditions

The motor vehicle sector is very sensitive to market conditions. Prosperity has a positive influence on the motor vehicle sector whereas recession has a negative influence. An analysis from Dank Motor vehiclemobilforhandler Forening, the Danish Motor Vehicle Dealers' Association, compares the development of the GNP over the last 15 years with the total amount of motor vehicles on the road in Denmark over the same period and concludes that the sale of motor vehicles is very closely linked to the general state of the nation's wealth.

Further, the sector's sensitivity to the fluctuations on the market is documented when comparing the development in sales in the motor vehicle sector throughout the 1980s with the development of the gross domestic product at factor cost. The gross domestic product at factor cost expresses the value increment in production.

Table 6 – The development of the gross domestic product at factor cost and the motor vehicle sector's sales

	Gross domestic product at factor cost	motor vehicle sector's sales
1982 – 1986	+ 14%	+ 100%
1986 – 1990	+ 6%	– 15%

Source: Danmarks Statistik

The above table shows the close relation between market trends and the level of activity in the motor vehicle sector. Sales in the motor vehicle sector increased considerably during the period of prosperity from 1982 to 1986. In 1986 the recession started, and motor vehicle sales have been decreasing ever since. For most households buying a motor vehicle is an important investment and in economically insecure and unstable times motor vehicle purchases are often postponed. The reverse also applies: when an economy flourishes, consumers fulfil old desires.

Furthermore, the motor vehicle sector is influenced by the economic policies carried through by the Danish Government. The 1986 reform of taxation had a markedly limiting effect on loan-financed consumption, such as motor vehicle purchases. The population's motor vehicle purchases are determined by short-term economy and policy trends. The relationship between the existing durability of motor vehicles and the new motor vehicle purchases can be characterized as being 'elastically variable': new purchases can be postponed or precipitated.

Repairs and maintenance are less sensitive to market fluctuations than sales. An analysis from Dansk Motor vehiclemobilforhandlerforening, the

Danish Motor Vehicle Dealer's Association, states that repair costs vary far less than purchase costs. Seen over a period of twenty years, the average costs for repair and maintenance vary from DKR 8000 to DKR 10,600 per year.

A closer study of the development in sales in the different sub-branches shows that between 1982 and 1986 the specialized and all round repair shops experienced a 2 per cent increase in their turnover, whereas the motor vehicle importers', the dealers' and the brand repair workshops' turnover fell by 21 per cent and 15 per cent, respectively. Statistically it is not possible to breakdown the turnover for motor vehicle dealers and brand repair workshops. However, in light of the above statement, it is realistic to presume that the brand repair workshops' turnover has been increasing slightly and that the fall in turnover has been with the motor vehicle dealers. The differentiated conditions for motor vehicle dealers and repair workshops are reflected in the number of newly registered passenger vehicles, buses, vans and trucks (cf. Table 7).

Table 7 – Number of newly registered passenger vehicles, buses, vans and trucks

Year	Number	Index 1986 = 100
1986	214,126	100.0
1987	161,911	75.6
1988	111,369	52.0
1989	101,201	47.2

Source: Dank Metalarbejderforbund: Autorapport 1991

Since 1986 new registrations of all categories of motor vehicles have been falling steadily. Due to the distributors' sensitivity to market fluctuations, there was a constant increase of new registrations from 1982 to 1986. The fall in new registrations means that the average life duration of motor vehicles in Denmark has gone up since 1986. According to Motor vehiclemobilimportørernes Sammenslutning, the Association of Motor Vehicle Importers, the average life duration of passenger vehicles has gone up from 6.7 years in 1986 to 7.4 years in 1989.[6] The older the vehicles the more repair jobs are required which explains the repair workshops' slight rise in turnover from 1986 to 1989. However, the fact that the increase was only 2 per cent could be contributed to the fact that an increasing part of the repair jobs are carried out by means of moonlighting. Centralforeningen af Motor vehiclereparatører, the Danish Motor Vehicle Repair Shop Association, carried out an analysis to see where motor vehicles, depending on their age, were repaired. It turned out that the older the motor vehicles the larger the share of repairs carried out by means of moonlighting. Ten years ago 30 per cent of the motor vehicles were moonlight-repaired by 'do-it-yourself people'. As the number of motor vehicles increased during the same period from 23 per cent in 1979 to 34 per cent in 1989, it can be assumed that the scale of moonlighting has increased, too, which, of course, damages the turnover of the repair shops.

The overall conclusion is that the motor vehicle sector's sensitivity towards market fluctuations is indicative of a business sector that has had considerable economic difficulties over the past five years which have led to a decrease in activities as well as employment. This development may be paralleled to the development within the building industry that is also very sensitive to market fluctuations. In periods of recession new investments are cut back in favour of maintenance and repair jobs.

Shrinking employment in the Danish motor vehicle sector

Obviously, recession has led to a marked fall in employment. During the period from 1986 to 1991, the number of employees in the motor vehicle sector fell from 55,000 in 1986, to 46,000 in 1990, a reduction of 17 per cent.

Table 8 – Number of employees in the different trades. 1986–1990

	Reduction, absolute figures	Reduction, per cent
Importers	– 1,038	– 11%
Dealers/		
brand repair shops	– 4,603	– 17%
all round repair shops	– 2,180	– 16%
specialized repair shops	– 1,587	– 28%
Total motor vehicle sector	– 9,408	– 17%
All sectors	– 70,669	– 3%

Source: Danmarks Statistik

The fall in employment has been far larger within the motor vehicle sector than in other sectors where the number of employees was reduced by 3 per cent only. This development further illustrates the motor vehicle sector's sensitivity to market fluctuations.

As can be seen from Table 8, the fall in unemployment is not distributed equally among the different job groups that constitute the motor vehicle sector in Denmark. Thus, importers reduced employment by 11 per cent while repair shops reduced employment by between 16 per cent and 28 per cent. Though statistically it is not

6 Source: Vejtransporten i tal og tekst

possible to break down the development in employment between brand repair shops and motor vehicle dealers, parallel to the development of the sector's turnover, there is good reason to assume that especially the motor vehicle dealer firms have had to reduce employment. In consequence, the fall in employment within the all round and specialized repair shops must have been considerably more marked than within the brand repair shops. One of the most important reasons for this development is that brand repair shops, by way of their close links to distributors and motor vehicle producers, have access to the newest technology. They have the best possibilities of acquiring the latest 'within test' equipment and modern tools. In addition, generally the brand repair shops are larger than other types of repair shops both with regard to number of employees and size of turnover.

This again strengthens the position of the brand repair shops over other types of repair shops.

In fact, an analysis from Dansk Metalarbejderforbund, the Union of Metal Workers in Denmark, concludes that during the last ten years the brand repair shops have gained a still larger share of the total amount of repair jobs and that the number of mechanics employed in brand repair shops has increased considerably at the expense of the other types of repair shops. In 1981 50 per cent of all motor vehicle mechanics were employed in brand repair shops. In 1988 the number was 56 per cent, whereas the relative number of employees had fallen in all round and specialized repair shops.

On the face of it, it might seem surprising that the reduction of employment was greater within repair than sales because earlier it was stated that sales were more sensitive towards market fluctuations than repair.

According to a report from Dansk Automobilforhandlerforening, the Danish Association of Motor Vehicle Dealers, and Instituttet for Fremtidsforskning, the Institute for Futures Studies, the reason is that throughout the 1980s motor vehicle repair has been mechanised. This development is illustrated by Table 9 below, which breaks down the motor vehicle repair sector's costs for raw materials and subsidiary materials (technology), wages and employer's contribution/participation (staff).

As can be seen from the Table, during the period from 1979 to 1986, there was a shift towards a higher level of technology used in repair jobs. The cost for raw materials and subsidiary materials including cost for technology were 61 per cent of the total costs in 1979. By 1986 they had grown to 70 per cent of the total costs. Thus the costs within repair are generated more by spare parts, materials and payments of interests than by wages. This information covers the period up to 1986. The report, however, concludes that the development observed will continue in future due to the continuous application of improved technology.

The report estimates that by the year 2000 the costs for material and technology will account for between 80 to 90 per cent of the total costs. On this basis a growth of the motor vehicle repair business is predicted, however, without growth in employment.

The continuing mechanisation of the motor vehicle repair jobs is documented by an analysis of which staff groups have been especially badly hit by the fall in employment since 1986. Within all types of repair shops skilled and unskilled workers are the first to be affected by the falling employment. From 1986 to 1990 dealers and brand repair shops had to reduce their staff of skilled and unskilled workers by 20 per cent, all round repair shops by 25 per cent and specialized repair shops by 30 per cent. The marked fall in employment must be interpreted as being a result of the increasing application of technology in the repair tools. This means, all other things being equal, that the qualifications of the remaining workers must be updated continuously.

In addition, the importance of product development within the motor vehicle sector must be taken

Table 9 – The motor vehicle repair shops' costs for material and staff

	R = Raw materials + subsidiary material	W = Wages and employer's contribution	R + W	R/R + W	W/R + W
1979	3.839	2.432	6.271	61%	39%
1980	4.142	2.355	6.497	64%	36%
1981	4.543	2.365	6.908	66%	34%
1982	5.326	2.610	7.936	67%	33%
1983	5.962	2.846	8.808	68%	32%
1984	6.729	3.036	9.765	69%	31%
1985	7.667	3.357	11.024	70%	30%
1986	8.345	3.624	11.969	70%	30%

Source: Danmarks Statistik. Nationalregnskabsstatistik 1987/1988

into account. Key persons with thorough knowledge of the sector claim that the appliance of still more advanced electronics in vehicles means a lesser need for repair. Today service check-ups are carried out after 15,000 km, only a few years back they were carried out at intervals of 10,000 km.

The number of firms remains the same, but the firms are becoming smaller

As mentioned earlier, the moderate economic climate in recent years has had a negative influence on the motor vehicle sector. However, the unfavourable market conditions have not produced a noticeable fall in the number of firms. The firms have become smaller with regard to turnover as well as number of employees.

The motor vehicle sector has more firms with a turnover of more than DKR 500,000 and less firms with a turnover of less than DKR 500,000 than any other sector in the Danish economy (cf. Table 10).

Table 10 shows that 36 per cent of the firms in the motor vehicle sector have a yearly turnover of less than DKR 100,000. Of the 36 per cent, the majority is importers and the least represented group are specialized repair shops. A turnover below DKR 100,000 indicates that the firms are not operating full-time and that the main source of income does not derive from the firm. Furthermore, a considerable part of the firms do not operate all year round.

Surprisingly enough, 41 per cent of the motor vehicle importers have a yearly turnover of less than DKR 100,000. This is surprising because the traditional price of a new motor vehicle is more than DKR 100 000. A possible explanation is that many importers deal in the import of single components and spare parts.

Approximately 20 per cent of the motor vehicle firms have a yearly turnover of between DKR 100,000 and DKR 500,000. It is assumed that the owners of the firms in this category are self-employed. Turnovers of between DKR 100,000 and DKR 500,000 opens up the possibilities of going solo, yet without leaving room for employing staff.

Table 11 – Development of the number of motor vehicle firms in relation to turnover. 1986–1990

	1986	1990	Changes in %
< 100,000	4,654	4,555	– 2%
100,00 – 500,000	2,589	2,411	– 7%
500,00 – 2.4 million	3,457	3,417	– 1%
2.5 – 10 million	1,465	1,473	+ 1%
> 10 million	898	855	– 5%
Total	13,063	12,711	– 3%

Source: Danmarks Statistik

Turnover of DKR 500,000 is obtained by 45 per cent of the motor vehicle firms which are assumed to employ salary-paid staff. They employ the majority of the 46,000 persons employed in the motor vehicle sector. All characteristics taken into consideration, the motor vehicle sector has a firm structure which is not representative of Danish firms in general.

Since 1986 the nett loss in the number of firms has been approximately 350, or a fall of 3 per cent which may seem little. However, the total number of businesses in Denmark has increased by 4 per cent. Thus, the economic development has had a negative impact on business establishments in the motor vehicle sector. At this point it should be mentioned that the 350 firms lost to the sector since 1986 express gross movements only.

Each year new businesses are set up and others are closed down. Calculations from Danmarks Statistik show that approx. 10 per cent of the total amount of firms in the motor vehicle sector were established in 1990 when approx. the same percentage of businesses was closed down.

In relation to turnover, the development in the number of firms has been fairly stable since 1986. The only exception is that especially firms with a turnover between DKR 100,000 and DKR 500,000 have been reduced in number (cf. Table 11).

From 1986 to 1990, 7 per cent of the firms with a turnover of DKR 100,000 to DKR 500,000 closed down. Firms with a turnover of less than DKR 100,000 managed well. Therefore, developments in recent years may indicate that the recession first hits new businesses, whereas firms that are not

Table 10 – Turnover, firm and branch. 1990

	Importers	Dealers	All round	Specialized	Sector	Other sectors
< 100,000	41%	37%	37%	26%	36%	43%
100,000 – 500,000	11%	17%	22%	22%	19%	22%
500,000 – 2.4 million	16%	18%	31%	42%	27%	23%
2.5 – 10 million	16%	14%	9%	10%	11%	8%
> 10 million	16%	14%	1%	–	7%	4%
Total	100%	100%	100%	100%	100%	100%

Source: Danmarks Statistik

operating full-time remain unaffected due to the fact that the owners' main income does not come from the motor vehicle firm in question. For all sub-branches in the motor vehicle sector it can be said that the number of firms with a yearly turnover of between DKR 100,000 and DKR 500,000 has been decreasing from 1986 to 1990. Firms with a turnover of more than DKR 500,000 experienced a minor reduction in numbers.

So to reiterate: the recession did not affect the number of firms, except for specialized repair shops where the number of firms was reduced by 12 per cent from 1986 to 1990. But the recession did affect turnover. During the period from 1986 to 1990 the average turnover per firm fell from DKR 4.4 million to DKR 3.9 million, a fall of 11 per cent.

Table 12 – Development of average turnover per firm according to branch. 1986–1990

	1986	1990	Changes in %
Importers	20.0 million	15.4 million	– 23%
Dealers/ brand shops	5.7 million	5.1 million	– 11%
Repair shops	1.1 million	1.1 million	
Total sector	4.4 million	3.9 million	– 11%

Source: Danmarks Statistik

The average turnover fell drastically in the importing firms: from DKR 20 million in 1986 to DKR 15.4 million in 1990.

The motor vehicle repair firms did not suffer reductions in their average turnover. On the contrary, firstly, as mentioned at an earlier stage, they experienced a slight increase in total turnover, and secondly the number of motor vehicle repair firms was reduced slightly.

The general fall in the motor vehicle businesses has occurred parallel to the general fall in employment. The number of businesses with one or two employees increased whereas it decreased in businesses with three or more employees.

Generally, with regard to the number of employees in addition to the firm owner, the motor vehicle businesses are the same size as other businesses. In Denmark approx. 40 per cent of the firms that employ salaried staff have from one to two employees. In the motor vehicle sector only 1 per cent of the firms have more than 50 employees. Thus, the motor vehicle sector is characterized by very few large firms.

It must be stressed that the above survey only includes firms that have employees other than the firm owner himself. As can be seen from Table 13, in 1990, 5,284 firms did have employees. Comparing this figure to the total number of firms

Table 13 – Number of work places with salaried employees according to firm size. 1990

	Motor vehicle sector	Other sectors
1 – 2	37%	39%
3 – 5	25%	22%
6 – 9	15%	13%
10 – 19	14%	13%
20 – 49	8%	8%
50 – 99	1%	3%
100 +	–	2%
Total	100%	100%
	5,284	190,133

Source: Danmarks Statistik

in Denmark, 12,711, it turns out that only 42 per cent of the motor vehicle firms have employees This means that more than half of all motor vehicle firms have no staff apart from the owner.

55 per cent of the motor vehicle importers have at least one employee besides the owner. For the specialized repair shops the percentage is 50 per cent, with dealers and brand shops it is 44 per cent and with all round repair shops it is 35 per cent.

During the period from 1986 to 1990 the number of firms in all of the motor vehicle sector with one or two employees has gone up by 6 per cent. The number fell by 8 per cent for firms with three or more employees. The number of firms remained stable, the only thing that changed is that they employ less people. The pattern of development is analogous to that of turnover. In 1986 the motor vehicle sector employed an average of 6.6 employees per firm. In 1990 the average number of employees per firm was 6.1. These figures take in all firms including firms with no employees.

Table 14 – Average number of employees per firm in the motor vehicle sector. 1986 and 1990

	1986	1990
Importers	7.5	6.5
Dealers and brand shops	6.0	5.2
All round shops	2.3	1.9
Specialized shops	3.3	2.8
Total Motor vehicle sector	6.6	6.1

Source: Danmarks Statistik and DTI calculations

Table 14 shows that on average all branches have less employees per firm in 1990 than in 1986. The unfavourable market conditions since 1986 have not influenced the structure of the firms in the Danish motor vehicle sector. The number of firms remains the same, but turnover and work force have declined.

5. CHANGING CONDITIONS AND THEIR IMPLICATIONS FOR SKILL REQUIREMENTS AND TRAINING

Throughout the previous sections of this report, references have been made to several analyses of the motor vehicle sector. They cover all areas of the Danish motor vehicle sector: distribution, repair, sales and market conditions. The forecasts in these analyses for the sector's development in the near future can be divided into 3 groups:

- larger units
- increased use of technology
- continuing training of employees becomes more and more important.

The analyses on the development of the motor vehicle repair area from both Dansk Metalarbejderforbund, the Union of Metal Workers in Denmark, and Dansk Automobilforhandlerforening, the Association of Danish Motor Vehicle Dealers, conclude that the number of firms will be reduced. The remaining firms will be larger, both in terms of turnover and number of employees. This conclusion is not supported by the developments in recent years as described in the sector analysis above. However, the analyses mentioned do not base their conclusions on historical developments, but on estimates of future requirements in the motor vehicle sector.

Conclusions on repair:
The motor vehicle sector will undergo major changes. Rapid technological development in tools and motor vehicles will require still more investment in equipment. Consequently, this will lead to increased demands with regard to the employees' educational level. Already today, many importers demand of the brand shops that employees attend continuing vocational training courses in new models and new techniques.

This development will lead to a reduction of the number of repair shops. The analysis from Dansk Metalarbejderforbund, the Union of Metal Workers in Denmark, states that the brand shops hold an advantage over other repair shops because generally they have better access to new technology. The brand shops are larger, both with regard to number of employees and turnover. Therefore, in the future they will have the best possibilities of acquiring state-of-the-art test equipment and tools.

Conclusions on brand shops:
The brand shops' close links to the brand dealers strengthens the formers' strong position. All round repair shops are smaller and do not have the same financial power to buy new equipment. Nor do they have the same access to information and instructions on new models as the brand shops have through their close links to the brand dealers. These conditions all strengthen the monopoly that brand shops seem to be gaining.

Conclusions on sales:
Here, too, the development will be towards fewer but larger firms. The analysis from Dansk Automobilforhandlerforening, the Association of Danish Motor Vehicle Dealers, and Institut for Fremtidsforskning, Institute for Futures Studies, base this forecast on the following grounds: international development, increased application of high technology in motor vehicles and tools, and the need for intensified continuing training efforts will encourage structural changes in the Danish motor vehicle sector which, in turn, will lead to a reduced number of motor vehicle dealers. A closer study of the international motor vehicle industry points to further amalgamation between motor vehicle producers. This brings with it the advantages of large-scale operations as well as the advantages of joint development and marketing efforts. Already, we see that closely related industries tend to increase mutual cooperation.

The analyses' coinciding conclusions on future trends of amalgamations/concentrations contrast previous developments as described in the sector analysis where it was stated that a fall in economic activity level did not produce structural changes or trigger amalgamations. Now, the question is why this development did not penetrate the Danish system long ago. One explanation could be that the firms have been able to cope with lower turnover. According to calculations from Danmarks Statistik, the turnover of importers, dealers and authorized repairs shops has been reduced by between 13 per cent and 16 per cent from 1986 to 1989. But how far are the firms prepared to go, and will this factor accelerate the amalgamation trends?

Conclusion on employees:
Increased application of technology in motor vehicles, equipment and tools demands improvement of employees skills. In the 1990s, the need for still more expensive and complicated machinery and equipment for repair and maintenance jobs is assumed to be more pronounced. This means that the employees' skills and qualifications have to be improved accordingly. The need for continuing vocational training is further sharpened by the fact that the production cycle is becoming shorter and shorter. The constant introduction of new products by the Japanese is made possible by new production technologies. European and American producers will follow with investments to promote the development and the introduction of new products. The analysis concludes that large firms have better financial backing and resources to meet increased demands for the continuing training of their employees.

Finally, the analysis stresses that for motor vehicle dealers, quality will become a still more important parameter of competition. Demands for compli-

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ance with standardization will increase. As producers or importers work with a limited number of motor vehicle dealers, it is easier for larger motor vehicle dealers than for small ones to satisfy the increased demands.

6. TRAINING AND RECRUITMENT

As mentioned earlier in the sector analysis, the majority of the people employed in the Danish motor vehicle sector have the necessary schooling. They are skilled workers or have a vocational background. The following is a brief account of the labour market partners' influence on the system of basic education as well as continuing vocational training. Further, an account will be given of the content of the existing education and training programmes directed specifically at the motor vehicle sector and the possibilities of further continuing vocational training will be outlined.

In Denmark the entire education system is under the authority of three ministries, a fact that is often subject to much criticism. The following areas of education come under the following ministries:

The Ministry of Education:	Compulsory schooling Gymnasium – the Danish upper secondary school Higher education Basic vocational education
The Ministry of Labour:	The labour market training courses (AMU) Work induction courses for young people and unemployed
Ministry of Culture:	Evening schools General courses

For the motor vehicle sector the structure outlined above means that basic vocational education for instance for motor vehicle mechanics and body smiths is provided within the framework of the Ministry of Education whereas all further continuing education and training is carried out under the authority of the Ministry of Labour. As mentioned already, many people feel that this structure is inappropriate. This matter is now being examined. An interministerial committee has been set up to put forward a proposal on how the coordination between the vocational education system and the system of labour market education and training can be improved.

6.1 Denmark's system of basic education and the labour market's role

On January 1 1991, a new law on vocational education came into force. It replaced an old law on vocational basic education, apprenticeship education and basic technicians' education. Apart from a major reduction in the number of vocational education areas, this law also meant changes in the administration of the system. The administration is no longer carried out according to a set of rules, but according to aims and a framework. Earlier the contents and methods of each educational area within a trade were laid down in detail by a central body. Now, the schools together with local partners define how the learning aims of the education area in question can be achieved. Only overall aims and frameworks are laid down by central authorities.

The labour market partners have gained more influence on education than earlier

Each educational programme is elaborated locally by the school in question and the new local educational committees. Together they decide what the school's curriculum must be like with regard to contents and form. In all advisory committees the organizations take up the majority of the seats. Altogether there are three committees that separately and in interaction with each other

The Structure of Vocational Education and Training in the Danish Motor Vehicle Sector

have a decisive influence on the contents of each educational area.

The council on vocational education
The council on vocational education is based on equal representation for all parties. It has 20 members appointed by employers' and employees' organizations as well as by counties and municipalities. The council on vocational education is connected directly to the Ministry of Education and it deals with the educational system's overall aims and structures and aspects of educational policies in relation to the area of vocational education.

Trade committees
The employers' and employees' organizations set up a number of trade committees with equal representation of the two parties. The trade committees participate in the planning and structuring of each different education area. They have a decisive influence on the trade specific part of the education. Amongst other things, the committees elaborate educational instructions covering their specific area of trade. Depending on needs, the trade committees are obliged to initiate the introduction of new courses within a given area. When a trade committee makes a proposal for a new course, the proposal must include a long series of information on the course itself and the need for it. Thus, the trade committee must come up with information on expected perspectives for employment; possibilities of practice; expected annual entry to the course; existing analytical information and general estimates on qualification needs, etc. The trade committee's description of the occupation must include information on the objective, scope and relation to other existing trade-specific courses.

Committees for new ideas and coordination
As a link between the council on vocational education and the trade committees, the council on vocational education may set up a number of committees for new ideas and coordination. They are responsible for innovation and coordination. One example could be changes in economic life that create demands for new courses, extended/stronger specialization, or the need to combine two or more courses.

Local committees on education
On a local level there are local committees on education formed by the region's employers' and employees' organizations. Their tasks are to give advice to the schools on the detailed contents of courses and to promote cooperation between the school and the local labour market.

The vocational courses cover a wide area

The vocational courses cover a very large area. Altogether there are approx. 85 courses with more than 200 specialities. Closely related courses are linked up with common courses with broad entry and subsequent specialization. This system means that without losing too much time, students can change their mind in the middle of their course and switch to another direction. Also, this possibility indicates that the system offers wide professional opportunities. The vocational courses cover the trade areas of commerce, administration and industry in private as well as public firms.

The 85 courses are divided into 8 main areas:

- trade, industry and technology
- health, care and social work
- education, information and art
- commerce and administration
- hotel industry, domestic work, food industry
- agriculture, fishing, natural sciences
- transport, telecommunications
- police, guards, national defence

Vocational education is alternance education

By far the majority of the vocational courses are alternance courses. This means that they comprise both practice in firms and instruction in commercial or technical schools. Theory and practice go hand in hand throughout the course of the education. The periods at schools provide the pupils with the theory of the area of trade they have chosen whereas the periods of practice in a firm introduce the pupils to working life. Schools and practice support each other. This alternance between schools and practice is organized in such a way that theoretical instruction is always given at the right time. Generally, the courses last between three to four years. They may start with a period of practice in a firm or in the school.

6.2 Vocational courses for the motor vehicle sector
In Denmark there are five courses designed specifically for subsequent employment in the motor vehicle sector:

- motor vehicle and electronic mechanic
- truck mechanic
- motor vehicle body smith (panel beaters)
- motor vehicle painters
- wholesale assistant

Motor vehicle and electronic mechanic
Of all the vocational courses in Denmark, the motor vehicle and electronic mechanic course is the most popular one. From January 1991 to the middle of 1992 more than 1,100 began training as motor vehicle or electronic mechanics. The course lasts four years. The course begins either by trainee service in a firm or at school. No matter how it begins, the course is continued with 20 weeks at school, where the pupil learns about petrol and diesel engines, steering gear, hydraulic brakes, transmission systems, electrical systems,

and motor vehicle body work. The 20 weeks at school are followed by practice in a firm, and the rest is a combination of short school periods and long periods of practice in a firm. During the school periods the pupils learn about anti blocking brakes (ABS), electrical security systems, extra equipment such as installation of radios, etc. Further, general subjects such as Danish and labour market relations are taught too.

The motor vehicle and electronic mechanic's courses give access to further education, for instance to the Danish B. Sc. engineering.

Truck mechanic
From January 1991 to the middle of 1992 130 pupils began training as truck mechanics. The course lasts four years and the course is structured in the same way as the motor vehicle and electronic mechanics' course. Here, too, the course alternates between periods of technical school and periods of practice. The learning material is related to trucks and hydraulics and diesel engines are very important.

Truck mechanic's courses give access to further education, for instance to the Danish B. Sc. engineering.

Motor vehicle body smiths
From January 1991 to the middle of 1992 approx. 60 young persons started a course as motor vehicle body smith. It is a four year alternance course. At the beginning the contents are the same as for the courses referred to above. Later it concentrates on motor vehicle body work and the pupils are taught how to weld and repair. The course is run in a technical school.

The motor vehicle body smith course gives access to further education, for instance to the Danish B. Sc. engineering.

Motor vehicle painters
From January 1991 to the middle of 1992, 75 persons started training as motor vehicle painters. The course lasts between three to six years and alternates between technical school and practice. The subjects taught take in different surfaces, materials and tools, different painting techniques, special effect paint jobs, industrial surface treatment, decoration and sign making.

The motor vehicle painters course gives access to further education, for instance as building technician or construction architect.

Wholesale assistants
During the period from January 1991 to the middle of 1992, 130 young persons started training as wholesale assistants for the motor vehicle sector. The course last three years. Training may start with 40 weeks at school, or with a period of practice, if the pupil has an agreement on trainee service. The first year will then comprise 18 weeks of school. The wholesale assistants have classes in English, accountancy, economics, sales and service as well as information retrieval and data processing. Those who start the education with 40 weeks at school have classes in Danish, a foreign language of their choice, economics, social affairs, commerce and culture. After this, most of the remaining time is dedicated to practice in a firm interposed with three school periods where the subjects taught are economics, management of purchases, management of stock and sales and marketing. The course is held at a commercial school.

The wholesale assistants course gives access to further education, for instance to the Copenhagen Business College or to the Danish School for International Marketing and Export.

Employment perspectives

The continuing vocational training programmes described above are all aimed at the motor vehicle sector. However, basically they are all very broad and can give access to employment in other trades too. As mentioned earlier in this sector survey of the Danish motor vehicle repair and sales sector, only approx. one third of the motor vehicle mechanics remain employed in the motor vehicle sector. Of those who stay employed in the sector in the future, the forecasts are that the wholesale assistants will find employment with the motor vehicle importers whereas the others must be expected to find employment with the motor vehicle repair shops. For motor vehicle painters and motor vehicle body smiths it is expected that they will find employment with the specialized repair shops, whereas the motor vehicle mechanics, the electronic mechanics and the truck mechanics are expected to find employment with the brand repair shops.

6.3 The Danish system of continuing vocational training and the role of the labour market partners

Denmark has a long tradition for the labour market partners to be involved in continuing vocational training. This applies to the AMU system as well. AMU stands for Arbejdsmarkedsuddannelser, the labour market courses. The AMU system is the largest provider of continuing vocational training activities. The system comprises training for unskilled workers, skilled workers and 'other groups'. In principle 'other groups' comprise all employees except those with a higher education. However, until now the practical application of the system has involved shop foremen and some groups of technicians.

The labour market partners play a decisive role with regard to the priority given to the different educational activities and the planning of the content and development of the educational

programmes. When it comes to grants adjustable within certain limits and the administration of the AMU system, the public takes over.

Influence is exercised by means of councils and committees with equal representation of the parties involved. According to the Danish Law 237 of 1985 on the labour market educational programmes, the organizations are assigned important tasks in connection with the management and administration of the educational programmes, tasks which imply organizational activities as well as financial issues. In reality the organizations' influence with regard to educational activities and finances might be larger than stipulated by Law 237 because it is very unlikely that any decisions that do not enjoy the support of the organizations can be carried through.[7]

Arbejdsmarkedsstyrelsen, the National Labour Market Authority, in collaboration with councils and committees, establishes detailed standards for each educational programme, assesses the education centres' capacity, lays down the main outlines of the annual activities of the education centres, divides the activities among the education programmes, and, during the budgetary phase, it divides the educational programme activities among trades and subjects.

Responsibility for the elaboration of proposals for new educational schemes and the development of new courses lies with different bodies. In the case of courses for semi-skilled workers, responsibility lies with the trade committees. In the case of labour market courses for skilled workers, responsibility lies with De faglige efteruddannelsesudvalg.

The main body within the AMU system is Uddannelsesrådet for Arbejdsmarkedsuddannelser, the educational council for the labour market courses. The council's duties include advising the Minister of Labour on different educational issues and once a year estimating the coming year's need for continuing vocational training. The council has 17 members: a chairman appointed by the Minister of Labour and 8 members from each of the labour market partners, i.e. employers' and employees' organizations. Immediately below the educational council are three eduction committees, one for each of the areas: unskilled workers, skilled workers and 'other groups'. Basically, the structure and tasks of the committees are identical which is why we have chosen to describe only one committee: the committee for continuing training of skilled workers.

Like the educational council, the committee for continuing vocational training of skilled workers has 17 members with equal representation of the parties involved. The members are appointed by the Minister of Labour and representatives from the labour market partners. The tasks of the committee are the following:

- to approve the educational programmes and plans for each course that has been elaborated by the trade committees;
- to follow and, if necessary, to take the initiative to organize and put the educational schemes that the skilled workers may need into effect;
- to assess the annual need for continuing training among skilled workers and to make estimates of the distribution of grants among the different trades in question.

Below the committee there are approx. 25 subcommittees on vocational education with connections to different areas of trade. Thus, in Denmark the motor vehicle trade belongs to the metal trades, or more specifically to Metalindustriens Efteruddannelsesudvalg. The committees on vocational education have a minimum of four members and maximum of 10 members equally distributed between representatives for employers' and employees' organizations. The tasks of the committees for vocational education are:

- to analyze the need for vocational education in their specific area;
- to elaborate proposals for educational programmes for the area of trade in question, and to elaborate educational schemes for each course;
- to see to it that the educational programmes are prepared and carried out in accordance with the vocational contents of the educational programmes.

As can be seen from the above, the labour market partners play a decisive role in the planning and organization of the labour market courses for skilled and unskilled workers as well as in decision-making with regard to the contents of each course.

6.4 Continuing vocational training programmes for the motor vehicle sector

In the Danish motor vehicle sector the majority of the external continuing vocational training programmes are initiated and run by the motor vehicle importers or by Metalindusriens Efteruddannelsesudvalg. A questionnaire survey in the Union of Metal Workers in Denmark in Denmark's

[7] Cf. 'Betænkning om samordning af den erhvervsrettede voksen- og efteruddannelsesindsats'. Arbejdsministeriet, Betænkning nr. 1234, maj 1992.

motor vehicle report from 1991 shows that in the last 12 months 67.8 per cent attended courses run by motor vehicle importers, 25.4 per cent attended courses run by the AMU system, and only 6.8 per cent attended courses run by 'others'. The questionnaire survey referred to above included only those employed in repair, i.e. motor vehicle and truck mechanics and motor vehicle body smiths. After having interviewed several people in the motor vehicle trade, many of them employed in sales, it is our conclusion that the inclusion of sales personnel would not change the above picture about where vocational education is on offer, nor would it produce important new courses providers.

As most continuing vocational training in the motor vehicle sector is provided by the motor vehicle importers and Metalindustriens Efteruddannelsesudvalg (ME), the description and analysis to follow focus on these two.

Also, a brief description on a new education initiative from the Danish Motor Vehicle Industries Employers' Association will be given. The new initiative comprises four courses for foremen in motor vehicle repair shops.

Finally, this chapter will include a brief account of the areas in which the motor vehicle firms choose to make their own in-house training programmes. Obviously, as this type of training is an in-firm matter, no data are available to document the extent of in-house training.

Continuing vocational training provided by importers

As mentioned already, the majority of continuing vocational training programmes in the motor vehicle sector is provided by the motor vehicle importers. However, they are only open to employees with authorized motor vehicle dealers and authorized repair shops. Importers' courses are for employees in both sales and repair.

Non-authorized dealers and repair shops must fall back on publicly run training schemes. Therefore, they are not covered by the following description of importers' continuing education programmes. Please see below for a description of the offers within the AMU system.

Once a year – in autumn when next year's motor vehicle models are being introduced – the motor vehicle importers send out a catalogue of the courses that they offer during the year to come. On the basis of this catalogue the dealers and repair shops plan their training activities. They decide who is going to attend which course and when. Normally, the importers' courses last between 2 and 3 days.

Sales personnel normally attend courses on sales techniques and courses that introduce them to new motor vehicle models. People in the trade underline that it is very important for all members of the sales personnel to attend the courses on new models. Otherwise they will not be able to give the customer the information and service that he needs and expects to get; this is crucial to where the customer chooses to buy his motor vehicle.

The main topic in the courses for motor vehicle mechanics and motor vehicle body smiths is the introduction to new models. This, of course, is because the new models have new electronic, brake systems, body materials, or other items that require an upgrading of the repair shop's employees' skills. Continuous upgrading of employees' skills is the only way to offer first class service.

During the last couple of years, training in the repair shops has changed radically. Presumably for economic reasons, now only one or two persons (most often foremen) from a repair shop are sent on continuing vocational training courses, i.e. introduction to new motor vehicle models. Apart from new knowledge, 'the chosen few' are given videos, slides, overheads and other audio-visual aids from the importer to take back to their repair shops. On their return, 'the chosen few' become teachers and it is their task to train their colleagues in the new models. The branch people we spoke to described the advantages and disadvantages of this type of training. A major disadvantage mentioned is that in general the training results are poor compared to the results when all employees attend the importers' courses, and where teaching is carried out by the importers' very experienced teachers. One advantage is that courses can be arranged in the firm when it suits into the firm's schedule. The firm's overall planning no longer depends on the importers' course dates.

N.B. We did try to obtain material and statistics on the importers' educational programmes from Automobil Importørernes Sammenslutning, the Danish Association of Motor Vehicle Importers, however, the association did not have any. The only way of gaining a total overview of the importers' offers of continuing training is to contact the individual importers. We are in the process of doing this, but it requires quite a lot of time. Until now we have not been able to complete this job. We hope to be able to get a full picture of the situation of continuing training from the motor vehicle importers with details on: title of courses, course contents, number of courses and number of participants broken down into the trade specific areas.

The AMU programme of continuing vocational training

Public continuing training in connection with the motor vehicle sector includes repair shops only, i.e. motor vehicle mechanics, truck mechanics, body smiths and foremen. The AMU system of

continuing vocational training for the motor vehicle sector does not include courses for sales personnel. Therefore, sales do not enter into this account of the public continuing training system, the AMU system.

Public continuing vocational training in the motor vehicle sector is carried out within the framework of AMU (the labour market courses of continuing vocational training). This means that participation is free of charge and that the participants receive wage compensation equal to 100 per cent of the maximum maintenance allowance. The AMU programmes are financed by the AUD fund, i.e. Arbejdsmarkedets Uddannelsesfond, the Labour Market Fund for continuing vocational training courses) to which all Danish employers and employees contribute. The courses are developed and run by Metalindustriens Efteruddannelsesudvalg, Metal Industries' educational committee, and most often the courses are held at technical schools.

In the motor vehicle sector, the continuing vocational training courses are designed for motor vehicle mechanics, truck mechanics and body smiths. Public continuing vocational training activities in the motor vehicle sector are characterized by the fact:

- that during recent years activities have been decreasing. This goes for the number of courses offered as well as for the number of participants.

The following courses were run in 1992 for motor vehicle and truck mechanics:

- Diesel engineers: passenger vehicles and trucks (2 courses)
- Brake systems: the ABS brake system, pneumatic brake steps 1 and 2 and hydraulic brakes (4 courses)
- Fuel systems: carburettors, diesel pumps and air pollution/catalytic technology (3 courses)
- Electronic systems: basic motor vehicle electronics 1+2, electronically operated ignition systems, electronically operated fuel injection and charging systems (5 courses).

1992 offered the following AMU courses, labour market courses, for motor vehicle body smiths:

- MAG-welding (1 course)
- Motor vehicle body straightening 1+2 straightening press (3 courses)
- Repair of plastic components and gluing techniques (1 course)
- Repair of safety body (1 course)
- Electrical installations for body smiths (1 course).

The courses are modular courses which means that participation in, for instance, basic motor vehicle electronics step 2 requires participation in basic motor vehicle electronics course step 1 or qualifications that are equal to those obtained by following course step 1. The courses vary in length from between 2 days to 2 weeks. The majority of the courses last 1 week.

The level of continuing vocational training activities was increased between 1986 and 1989, it declined between 1989 and 1990, and from 1990 to 1992 it increased again reaching its 1989 level.

In general, it can be said about the continuing vocational training courses that their main objective is to develop the mechanics' technical and vocational skills. This is reflected in the feedback from people in the motor vehicle trade who say that the external courses strengthen and develop specific technical and occupational skills, whereas in-house training courses tend to develop more general skills and attitudes through, for instance, workshops. Table 15 shows the number of courses that were held between 1989 and the first six months of 1992.

The table reveals that the number of AMU continuing vocational training courses in the motor vehicle sector has fallen from 205 in 1989 to 183 in 1991. Electrical installation courses experienced a dramatic fall; 155 in 1989, whereas in 1991 only 135. The reduced number of courses can be attributed to several factors. It may be caused by the general fall in employment in the sector; less employment means less demand for continuing vocational training. It may also be caused by the general recession in the motor vehicle trade. The motor vehicle firms are reluctant to send their employees on continuing vocational training courses. It may also be caused by the fact that in 1989 the demand for courses in basic motor vehicle electronics was extraordinarily high and that in the following years the demand for these courses fell to a more natural level.

Another interesting observation from Table 15 is that the courses in electronics account for two thirds of the total number of courses on offer in the motor vehicle sector. This does indeed support the previous statements that the high demand for continuing vocational training is due to the increased application of electronics in motor vehicles.

What is surprising is that between 1989 and 1991 only 13 to 17 courses were held on body jobs. This must be attributed to the fact that the body smiths constitute only a small part of the total

Table 15 – Number of AMU continuing vocational courses, automobile sector 1989–1992

	1989	1990	1991	1992[1]
Body repair	3	2	3	1
MIG welding	3	4	4	2
Body repair, alignment bench	4	2	–	–
Body repair, high strength steel (HHS)	–	–	3	2
Body repair step I	–	–	2	1
Body repair step II	3	3	3	2
Plastic parts repair + adhesion	2	2	2	1
Safety body constructions	–	–	–	2
Electrical systems				
Total	15	13	17	11
Engines	8	10	9	8
Diesel engines, passenger vehicles	4	4	7	3
Diesel engines, trucks				
Total	12	14	16	11
Brakes	–	–	–	1
Air/hydraulic brakes	12	6	6	5
Air brakes, step I	–	5	4	2
Air brakes, step II	–	5	3	9
ABS-brake systems				
Total	12	16	13	17
Fuels	5	8	9	5
Carburettors	–	2	3	1
Diesel pumps	–	–	–	4
Air pollution and catalytic systems				
Total	5	10	12	10
Electrical systems	52	39	43	21
Basic automobile electronics, step I	46	30	41	16
Basic automobile electronics, step II	25	26	23	12
Electronic ignition systems	27	25	24	16
Electronic fuel injection	5	4	4	3
Charging systems				
Total	155	124	135	68
Others	6	4	0	1
Total	205	181	183	118

Source: Arbejdsmarkedsstyrelsens (AMS) database 'ANDREA'

[1] Only figures from first six months of 1992

number of employees in the motor vehicle sector. Dansk Metalarbejderforbund, the Union of Metal Workers in Denmark, has approx. 25,000 members related to the motor vehicle sector. Only 844 of the 25,000 members are motor vehicle body smiths. By way of comparison it may be mentioned that approx. 18,000 of the 25,000 members of the Union of Metal Workers in Denmark from the motor vehicle sector are motor vehicle mechanics.[8]

The number of participants in the AMU continuing vocational training courses has fallen form 2,318 in 1989 to 2,165 in 1991 (cf. Table 16).

A comparison of the average number of participants per course in 1989 and in 1991 shows that the average number has risen from 11.3 per cent to 11.8 per cent. For both years it must be said that the average number of participants is very high considering that the maximum number of participants in AMU courses of continuing vocational training is 12.

As for the number of courses, there has also been a fall in the number of participants in electronics courses from 1,768 in 1989 to 1,534 in 1991. The reasons for this fall are considered to be the same as the reasons for the fall in the number of courses held.

[8] Source: Metalindustriens lærlingeudvalg

1.

Table 16 – Number of participants in the AMU continuing vocational courses, 1989–1992

	1989	1990	1991	1992[1]
Body repair				
MIG welding	33	23	30	12
Body repair, alignment bench	26	39	33	8
Body repair, high strength steel (HHS)	43	21	–	–
Body repair, step I	–	–	32	23
Body repair, step II	–	–	22	12
Plastic parts repair + adhesion	33	35	34	14
Safety body construction	20	20	24	9
Electrical systems for body smiths	–	–	–	12
Total	158	138	175	90
Engines				
Diesel engines, passenger vehicles	91	111	96	96
Diesel engines, trucks	46	45	79	33
Total	137	156	175	129
Brakes				
Air/hydraulic brakes	–	–	–	12
Air brakes, step I	134	71	68	59
Air brakes, step II	–	52	46	24
ABS brakes	–	56	31	90
Total	134	179	145	185
Fuels				
Carburettors	58	91	102	44
Diesel pumps	–	23	34	0
Air pollution and catalytic converters	–	–	–	24
Total	58	114	136	68
Electrical systems				
Basic motor vehicle electronics, step I	614	455	495	250
Basic motor vehicle electronics, step II	519	345	462	169
Electronic ignition systems	280	290	256	129
Electronic fuel injection	296	282	275	177
Charging systems	59	49	46	33
Total	1,768	1,421	1,534	758
Others	63	48	0	13
Total	2,318	2,056	2,165	1,243

Source: Arbejdsmarkedsstyrelsens (AMS) database 'ANDREA'

[1] Figures for first six months of 1992 only

N.B. We must make studies to find out whether the level of continuing vocational training in the motor vehicle sector is higher or lower than in other sectors in Denmark.

Continuing vocational training for shop foremen within the framework of Motorbranchens Arbejdsgiverforening, the Danish Motor Vehicle Industry's Employers' Association

Given that changing work forms and increased demands for external and in-house training and service are constantly presenting new demands on managers in the Danish motor vehicle sector, Motorbranchens Arbejdsgiverforening, the Danish Motor Vehicle Industry's Employers' Association has developed new manager training/education courses for repair shop foremen.

The courses are financed by the participants, but members of the Danish Motor Vehicle Industry's Employers' Association receive a grant of 50 per cent of the participation fee per participant.

Four courses are offered:

Collective bargaining: this deals with matters and rules of collective bargaining, especially rules for shop stewards and rules concerning the apprenticeship system. The employers consider these matters to be of utmost importance for full utilization of the repairs shop's capacity.

Customer and staff contact: the shop foreman is most often the person who receives customers' vehicles and he is the one who presents the job to be done on the motor vehicle to the repair shop on

a detailed and clearly formulated job sheet. Thus the shop foreman is the ultimate and most important communication unit in the repair shop. The description of the course puts it this way: 'The foreman or repair shop manager must be able to take notes of the customer's problem. When the customer comes to collect his vehicle, the shop foreman must be able to present the result and the service carried out by the repair shop to the customer.'

Practical organization and management of work: the repair shop foreman learns how to delegate, control and manage the work in the repair shop.

Economics and regulations of the repair shop: here the shop foreman learns how to make budgets and make calculations of key economic figures. Further the course introduces him to the regulations of a repair shop.

The continuing vocational training courses for shop foremen are quite new. The first course on collective bargaining was held in August 1992 and it is much to early to make any conclusions as to users interest in the courses or to evaluate the course contents.

In-house continuing vocational training

In some firms in the Danish motor vehicle sector, in-house training activities are organized from time to time. According to people from the trade this applies mainly to larger authorized dealers and repair shops.

Today many importers' courses on new models are no longer solely run on the importer's premises. Often they are held in the individual firms where the shop foreman or other members of the repair shop staff act as teachers. As mentioned earlier, these 'teachers' have been on importers' courses where they have been given audio-visual aids to be used on their return in the training of their colleagues.

Apart from this type of importers' courses, many larger firms arrange in-house workshops and courses related to behaviourial skills and attitudes. The subjects include customer service, cooperation and quality. The workshops or courses are for all employees in the firm because the inclusion of all members of staff improves the common understanding of how the firm treats customers. Often the workshops and courses are built-up around an invited guest's presentation of a certain topic, often in a provoking manner, to encourage debate among the staff. The debate is the main objective of the event; the employees discuss the point of view in the presentation compared with the practices in their firm.

We have been in touch with several authorized dealers and repair shops that use this type of in-house training. According to them, many firms organize workshops and courses of this kind. However, as mentioned already, it is difficult to get a full overview of the scale of this type of training course.

CASE STUDIES

PART 2:

1. **Volvo Vanløse A/S**
2. **Magneto Køge ApS**
3. **Roskilde Diesel og Bremseservice A/S**
4. **Vidø Automobiler A/S**

1. VOLVO VANLØSE A/S

Size of Firm: V

Brand Name: Volvo/Renault

Category of motor vehicle: A

Type of Firm: C

1. General description of the case

The firm is an authorized Volvo and Renault dealer/repair shop and is located in the Copenhagen area.

The case description is based on a visit to the firm on September 14, 1992 and another visit, a follow-up visit, to the firm about a week later to define matters of personnel structure, participation in staff training and work organization. In connection with the visit, there have been interviews with the managing director, service manager/production manager, sales manager/a sales man, a foreman, shop steward, and a motor vehicle mechanic. Moreover, the case description is made up of the impressions made by the DTI consultants during a tour of the firm's various departments. The duration of the visit was approx. $1\,^1/_2$ days.

The case description also builds on information from a three-hour interview with the sales and development manager at Volvo Danmark A/S, the Danish importer of Volvo and Renault.

2. General description of the firm

2.1 Major data on the firm

2.1.1 Type of firm

Volvo Vanløse A/S is an authorized Volvo-Renault dealer and repair shop.

Questioned as to what it actually means to be authorized for one or more motor vehicle makes, in this case Volvo and Renault, the managing director stressed the following:

- that the firm specializes in the two makes of motor vehicles – both with regard to sales and service;
- that the firm selling new motor vehicles only sells the two makes of motor vehicles, while the firms selling secondhand motor vehicles sell all brands;
- that marketing is often undertaken in cooperation with Volvo Danmark, which distributes both Volvo and Renault;
- that Volvo Danmark does not supervise or check the firm's marketing, but that there are certain connections between the two;
- that a weekly report is prepared on sales and budget matters which is then sent to Volvo Danmark;
- that the firm has access to the courses offered at the factory as well as the importer's courses and other forms of service including marketing and stock checking.

The ISO 9000 certification has not been adopted in the branch and Volvo Danmark cannot require its dealers to be certified. All the same, the managing director has no doubt that the ISO 9000 certification requirements will become widespread in the future.

2.1.2 Categories of motor vehicles

Volvo Vanløse A/S only deals in passenger vehicles.

2.1.3 Form of repair and sales

New vehicles: sale, repair and service on Volvo and Renault.

Secondhand vehicles: purchase, sale, repair and service on all brands.

2.1.4 Location of the firm

Volvo Vanløse A/S is located in the greater Copenhagen area.

2.1.5 Size of the firm

Volvo Vanløse A/S has 67 employees.

2.2 Brief history of the firm and recent strategy and development

The firm was established in 1960 with the name 'Nordic Diesel Dealer'. In 1963 the firm became an authorized Volvo dealer and in 1967 the firm moved to its present location. In addition to the location in Copenhagen, the firm also has a repair shop and spare parts department in Lyngby.

2.3 Structure of the firm

2.3.1 Organization of the firm

The firm is a corporation with the present managing director as the sole shareholder.

The firm is made up of management and three departments: business, sales and services.

The service department or after sales services department is clearly the largest. The after sales department is made up of 2 repair shops, mechanical and body work and spare parts/storage department at the Lyngby address. The service department is headed by the after sales manager/production manager.

Due to the fact that the visit was only to the head office in Copenhagen, the detailed descriptions

concerning the work process and work organization in the firm are only representative of the head office.

The employees in the mechanical repair shop are divided into two groups of three skilled workers and one or more trainees/apprentices. Each group is headed by a foreman and is structured in such a way that it can solve all forms of service problems and can handle all types of repairs on Volvo and Renault models.

The employees in the body repair shop are not organized in groups but function as a large unit instead.

The firm undertakes all kinds of mechanical repair jobs and body work jobs. The firm does not carry out any painting jobs. These jobs are done elsewhere.

Earlier the mechanical repair shop was organized in three groups: two 'customer groups' and one 'sales group' responsible for the preparation of new and secondhand vehicles. Now, the three groups have reduced to two groups: one 'customer group' and one 'sales group' that work on customers' vehicles as well. The reason for this restructuring is that the preparation of sold vehicles cannot keep the 'sales group' employed full-time.

The sales department is managed by the sales manager. Due to the limited size of the department, he works as a salesman alongside his staff.

2.3.2 Occupational structure

At present, the firm has 67 employees of whom 53 are related to the repair shops and the service department. The service department is run by a service manager/production manager. Under him, six foremen are in charge of the 53 employees, mainly skilled motor vehicle mechanics, spare parts salesmen, body smiths, trainees and apprentices (16 at the moment).

The business department has 3.5 employees, all white collar workers. The sales and preparation department has six employees, three are sales staff.

2.3.3 The organization of work and work processes

The mechanical repair shop and bodywork facilities are separate from each other, both physically and functionally. As already mentioned, in the mechanical repair shop, the employees are organized into 2 groups. Each group is made up of 3 mechanics together with one or more trainees/apprentices. Each group is put together in such a way so it can perform all types of motor vehicle service and motor vehicle repairs. Apart from some work tools like for example, diagnostic work tools and tyre changing tools, each group and each mechanic has his own work area with its own tools. Each group is headed by a foreman.

In the bodywork shop the smiths and the trainees/apprentices are not organized in groups. This is primarily due to the fact that it is not possible to set up permanent work areas, each with its own set of work tools like in the mechanical repair shop. There are too many work tools and they are too expensive. The bodywork shop is also headed by a foreman.

There follows a description of the work process in the repair shops:

1. The foremen meet the customers in the registration office, where they reserve time to have their vehicle serviced or repaired.

Table 1 – Number of employees at Volvo Vanløse A/S, October 1992

Categories of employees	Head Office	Lyngby
Preparation		
skilled workers	2	
Sales department		
sales staff (1 manager)	3	
administration	1	
Service department		
service manager foremen	1	
mechanical repair	3	
body work	1	1
machine shop	1	
administration	2	
Mechanical repair shop		
mechanics	10	2
apprentices	11	2
Body repair shop		
body smiths	4	1
mechanics	1	
apprentices, body work	2	2
skilled workers	1	
Spare parts		
Manager of spare parts	1	
spare parts salesmen	4	2
skilled workers	2	
Nassau gate department		
Salesmen	2	
Business		
Business manager	1	
administration	2	
Management		
managing director	1	
secretary to the management	1	
Canteen	1/2	
Total	58	10

The foremen try to diagnose the problem with the intention of giving the customer an estimate as to what a possible repair might cost. In addition, if it is a routine service checkup the foreman informs the customer of the price involved.

Once an agreement has been established between the foreman and the customer, a work sheet is filled out indicating when the customer leaves his vehicle, when it will be repaired, when it will be finished, and what work has to be done on it. It is a general agreement between the foreman and the customer that if further damage to the vehicle becomes apparent, the repair shop will not repair this until it has received the customer's permission.

2. The order sheets are updated on the basis of the information on the work sheets each day. The mechanics and smiths use the order sheets as a guide for what they must do. Every morning, when the foremen come to work, the order sheets are ready for the repairs and service checkups to be done that very day. The order sheets are filled in the previous afternoon by an administrative employee.

3. The foremen distribute the day's orders among themselves and they are left on a table in the foremen's work area. Each group member or smith from the bodywork shop can then take the order sheets from there. The foreman makes clear which sequence in which the orders are to be dealt with.

4. Each group in the mechanical repair shop carries out the orders alone – each group is made up of employees whose qualifications enable them to solve all kinds of service problems and to make all kinds of motor vehicle repairs on the Volvo and Renault models. This is not to say that each member of the groups has the same qualifications. Each mechanic in each group is specialized in specific things, for example, the electronics or brake system.

5. In the bodywork shop the procedures are actually the same. Here the foreman basically chooses the smith who will carry out the orders.

6. After the service or repair has been made, the foreman checks the motor vehicle and possibly test drives it as well.

7. The invoice is then written and the foreman returns the vehicle to the customer.

Things are quite different in the *sales department*. There are only 6 employees, of whom 3 are salesmen. The remaining 3 employees are administrative and spare parts salesmen.

The 3 salesmen function as a group, with one of them as the sales manager. All of them are empowered to buy vehicles and all 3 salesmen sell both new Volvo and Renault vehicles. They may all also draw up financial agreements, leasing agreements etc. with the customers. The only exception is the sale of secondhand vehicles, which the sales manager takes care of.

The sales group functions especially as a group when:

- planning and carrying out marketing initiatives;
- coming together to evaluate each other's sales technique and ways they meet and deal with the customer

A typical work day for a salesman in the firm looks like this:

1. The day is taken up as much as possible with meetings with customers – both in the city and in the firm.

2. Some customers come without an appointment. They expect and in principle should receive the same treatment as a customer who has made an appointment. This is often difficult; if all the salesmen are busy, this can prove to be an impossible task.

3. The salesmen buy, sell and lease vehicles during the course of the day, both weekdays and weekends. The 3 salesmen take it in turns to work weekends.

4. Once a week the secondhand vehicle advertisements are edited. The vehicles sold must be taken out, the new vehicles must be put in and the price of the unsold vehicles must possibly be taken up for renewed consideration with regard to the general price developments on the secondhand vehicle market.

5. The group of salesmen meet quite regularly to plan different marketing activities.

The qualification requirements in the different categories of employees have changed during the last few years. There are many reasons for this.

The main reason is technological development in motor vehicles, for example new electronic control systems. This means that the sales employees must be able to describe the complicated technical innovations and subtleties in such a way that the customer can understand what is meant. Moreover, the service and repair departments' employees must be able to master the new work methods and techniques affecting service, errors/faults and repair work.

Changes in laws, provisions and financial possibilities must be coupled with skill upgrading – especially regarding the sales employees.

The competition and the way the firm receives customers is also an area in which demands are

changing. So, it is important for staff to be good at calculating and coming up with a price, for example when a customer must sell his old vehicle and must have repair work done on it. In this case, it is important that the salesman be well informed about the current secondhand motor vehicle prices in the market. The typical customer is not so quick to take a decision as he used to. The decision-making process has become more complicated and takes longer. All this places new demands on both the salesmen and the repair shop managers. A typical customer does not exactly know what he can afford. He must talk to his bank. It is possible that the customer's assets are in the form of bonds which he must sell first at a given price. All in all, it is more complicated and it takes a longer time to reach a decision. Generally, it is now necessary to seek out customers. The salesmen contact the customers to find out whether they are satisfied with the vehicles, to tackle possible problems and to increase the possibility that the customers will buy their next vehicle from the firm.

2.4 Human resources

2.4.1 Development and number of employees

If we look at the number of employees over time there are significantly fewer employees in the firm today than in the past. In 1972 there were 131 employees, in 1987, 100 employees and in 1992, 67 employees. The decrease in employment is due to efficient management in the repair shop, generally fewer repairs on the vehicles together with a general falling-off in motor vehicle sales during the last 5–6 years.

The production manager stated that the general fall in the volume of repairs is primarily due to the increased use of electronics, fuel supply, ignition etc. The electronics are apparently more durable than the technology used earlier and consequently there is no routine check up at 10,000km intervals, but at 15,000km intervals. That means that the firm loses 1/3 of its routine check ups and this, according to the production manager, is 'something which is making itself felt'.

Looking to the future, the managing director felt that the firm now had reached the minimum number of employees (67) assuming the firm continues to operate on the present scale.

Furthermore, the managing director stated that the current level of 16 trainees and apprentices was not the normal number of trainees/apprentices. The normal amount is approximately 8 trainees/apprentices. The main reason why the number of trainees/apprentices has been relatively high is that there was a campaign in 1991 which the labour market organizations launched with a view to increasing the number of such posts. An important reason why this particular firm has been influenced so much by the campaign is probably that the managing director is also the chairman of the Motorbranchens Arbejdsgiverforening (Danish Motor Vehicle Industry's Employers' Association).

2.4.2 Labour force (age group, sex, nationality, conditions of employment)

All 67 employees work full-time, except for one part-time administrative employee in the business department and one part-time employee in the canteen.

By far the majority of the employees are men. The firm has seven female employees: one secretary for the management, four women employed in business and administration, one woman in the canteen and one female motor mechanic apprentice.

At present, the firm does not employ any foreigners.

The average age among the employees has become higher. This is primarily due to the fact that the personnel turn-over in the firm during the last year has been zero. The only people to leave the firm are trainees and apprentices.

2.4.3 Working conditions

For the three occupational categories, white collar workers, mechanics and sales staff, these are the salary conditions:

- White collar workers have a fixed monthly salary
- The sales staff receive a fixed monthly salary, but also get a sales commission
- The mechanics/smiths receive a basic salary plus a bonus which depends on each group's turnover. The basic salary, or so-called 'attendance salary' is DKR 81 an hour. With the bonus, a mechanic's/smith's salary is presently DKR 107 an hour. When the mechanics/smiths participate in continuing vocational training programmes for example, they are guaranteed a salary of DKR 102 an hour.

65 of 67 employees work full-time, i.e. 37 hours a week, and all employees are entitled to 25 days holiday per year.

2.4.4 Level of education of the labour force

The majority of the employees at Volvo Vanløse A/S have an occupational background.

In the repair shops, the employees with an occupational background (service manager, foremen, motor vehicle mechanics, body smiths, spare parts salesmen) count for 34 out of 53 employees.

16 are apprentices and only three employees are unskilled workers.

In the sales department all sales staff have qualifications most often as spare parts salesmen, or they have a commercial background from another trade.

It is the firm's recruiting policy that repair shop staff must have basic occupational qualifications during the time of employment, i.e. a skilled worker's basic vocational training.

The situation in respect of salesmen is quite different. They have undergone training within a branch, e.g. within mechanics, as spare parts salesman etc., but they may also be trained in a totally different branch, for example, in business. The managing director referred to an example where a salesman, (no longer employed there) came from a job with the military. At the time of employment, he did not have any experience in selling motor vehicles, but he developed and managed the sales job so well that the managing director said without hesitating that he became the best salesman he had ever had.

Generally, the recruiting policy of the firm is not so much geared towards good grades from exams. What is stressed is the applicant's personal skills.

The Managing Director emphasised that the employees should have the right attitudes towards the firm and the tasks in hand. The employees must be committed, they must have and show natural respect for the customers, as well as flexibility about taking on new duties.

Moreover, the managing director wants employees to solve problems and/or create creative solutions. He would rather have this type of employee, who may also make a mistake which can cost the firm money, than have stiff organization whereby the employees have neither the authority to make their own decisions, nor do they dare act alone for fear of making a mistake.

The managing director is responsible for recruiting the salaried employees; the production manager is responsible for employees in the repair shop. The firm has not had problems with recruiting employees with the necessary qualifications.

3. Providers of continuing vocational training

3.1 Structure of the firm

Management is not directly involved in the employees' training. The organization of the employees's participation in the courses rests with each individual department. The courses normally take place during working hours and, as already mentioned, the firm pays the employees their salary during the course period.

In-house courses and repair shops are arranged. For instance, the managing director arranged an in-house course on customer service with an external course provider. A three-day course located in Rungsted has been arranged as well.

3.2 Structure of Customer Service Training Centres

The importer (Volvo Danmark) plays a central role in product related training activities. They normally consist of (1) 1–2 day course at Volvo Danmark, (2) distance learning courses and (3) various kinds of documentation materials (i.e., video, slides, overheads and written material) which are sent to the firm.

Training activities cover a relatively broad spectrum of subjects including the following:

- New motor vehicle models ('news courses')
- Mixed news (concerning a number of motor vehicle makes)
- Electronics
- Sales techniques
- Economics
- Customer service
- Telephone service

A variation on the distance learning courses are the Volvo Vista check and development material. This is made up of a comprehensive compendium and a large number of questions which the individual employees answer – alone or together with a colleague – and returns to Volvo Danmark. The material is divided into various employee categories which refer, for example, to mechanics, foremen, etc. An important motivating factor in order to encourage the employees to answer the questions is that Volvo Vista is also a national competition for employees in the authorized Volvo dealers/distributors. This competition ends with the selection of a Danish winner of the Volvo Vista's questions. According to the managing director, much prestige is associated with winning this prize.

Employees from a number of dealers participate in the importer courses, because each firm can only do without one or at most two employees at a time. The importer requests only one representative from the firm to the 'news courses' (the latest news on new motor vehicles). This means that there is a need for the employee to communicate the knowledge acquired from the course to other employees. The repair shop manager and the other foremen are responsible for ensuring that this communication takes place. Once they themselves have been on the importer's course, they talk with the mechanics about the new things they have learned.

3.3 Structure of public centres

Public centres offering continuing vocational training generally cover the motor vehicle area

as a whole. Therefore, please see the description in the Sector Analysis of the Motor Vehicle Repair and Sales Sector in Denmark.

4. Training policy of the firm

4.1 Existence of training plans or training concepts on repair shop level

The firm does not have a training policy, a training committee or a separate training budget. Nevertheless, in practice, there is 6 per cent compensation for sickness and training. Normal practice is that approx. 4 to 5 per cent of the training time is equivalent to around one week per employee.

The manager's attitude on the issue of continuing vocational training is that at all times employees should have the necessary and sufficient qualifications. To fulfil this requirement training activities must be carried through in accordance with needs.

4.2 Inter-linkage of training concepts and demand

4.2.1 Analysis of required skills

Volvo Vanløse A/S does not analyze qualifications to continuously define the qualification needs of the different groups of employees. The firm's approach is less formal: the mechanics, the foremen and the two groups discuss the needs for updating qualifications.

4.2.2 Connection between required skills and training concepts

Within the technical/occupational area there are no problems. Here Volvo Danmark and Metal Industriens Efteruddannelsesudvalg (the Danish Metal Industries' Committee on continuing vocational training) see to it that courses meeting the firms' qualification requirements are offered on a continuous basis.

The situation is different with regard to courses aimed at upgrading the employees' general and personal skills in relation to quality consciousness and customer service. Here the firm prefers to arrange its own courses or workshops with external speakers to present a specific topic.

4.3 Target groups of training

Primarily motor vehicle mechanics, foremen and salesmen participate in continuing vocational training.

Body smiths do not participate in continuing vocational training programmes to the same extent. This is because there has not been any significant development either in products or technology in their field of work.

The staff in business and administration is supported by management when they want to participate in continuing vocational training activities. Normally they attend courses after working hours.

4.3.1 Participation in continuing vocational training courses (1987 to 1992)

Compared to the 1991 national average of motor vehicle mechanics' participation in importers' courses, the participation of Volvo Vanløse A/S motor vehicle mechanics is below average: 1.76 days per year as against the national average participation of 2.0 days per year. However, the 1991 figures show that each motor vehicle mechanic at Volvo Vanløse A/S participated 3.6 days in Metalindustriens Efteruddannelsesudvalg courses, making the total number of continuing vocational training days 5.3 days in 1991. We are not able to say if this is above or below the national average.

Apart from the above-mentioned importers courses, all motor vehicle mechanics, foremen and spare parts salesmen participate once a year in the Volvo Vista-Renault Club competition where their knowledge on the different models is tested. If they are not able to come up with an answer to a given question, they must seek information and make out an answer. Thus, the competition operates as a once-a-year upgrading of knowledge on the Volvo and Renault models. According to Volvo Danmarks's estimates, each Volvo employee spends between five and ten hours a year in Volvo Vista/Renault Club 'self tuition courses', as they are called by the importer.

Table 2 – Volvo Vanløse A/S, Number of course days per employee

	Mechanics Importer courses	ME courses	Foremen Importer courses	ME courses
Before 1990	1.9		4.3	
1990	3.0		5.7	
1991	1.7	3.6	0.8	5.0
Until September 1992	1.2		0.8	

Source: Volvo Vanløse A/S

Several motor vehicle mechanics and foremen have attended the courses (mostly on electronics) organized by Metal Industriens Efteruddannelsesudvalg and held at technical schools.

The courses arranged by Metal Industriens Efteruddannelsesudvalg differ from and supplement the importer's courses because they last longer (one week). They cover more brands, not just Volvo and Renault. Moreover, the participants are given more time to concentrate on exercises and acquire the required skills by means of 'learning by doing'.

The employees participate in continuing vocational training activities other than those organized by the importer or Metal Industriens Efteruddannelsesudvalg. Thus, the body smiths have participated in body work courses arranged by the Danish Technological Institute, and some employees attend courses in their spare time.

4.3.2 Access to continuing vocational training

Once a year, Volvo Vanløse A/S receives catalogues with a description and outline of the courses available from the Volvo Danmark A/S and Metal Industriens Efteruddannelsesudvalg. In the service department, the foremen assess if their mechanics have any qualification needs.

Participation in the training activities are, in principle, voluntary, but in practice 'voluntarily required'. The employees are ensured against loss of salary during the courses and the aim is to send all of them on an importer course once a year.

The way in which each individual employee manages to attend the courses is very simple. In the sales department, there is an agreement among the 3 salesmen about who should attend which course and when. In principle, all salesmen attend the same courses, so what is important is planning course participation. The training related activities in the sales department are not managed top down. In the service department, the employee asks his supervisor about attending a course, but the initiative often comes from the employee's foreman. He continuously evaluates and decides on who needs it and makes certain that 'there is no-one who has not learned how to master something new'.

Each department registers which employees have been to which courses and when.

4.4 Training plans

4.4.1 Aim of the training

The overall aim of continuous vocational training is to always keep staff up-to-date with respect to the qualifications needed.

Qualification requirements differ from one category of employee to another. During the last few years, many factors have led to changes in qualification requirements.

One of the main reasons for changes in qualification requirements is the development of the technology used in motor vehicles, for instance new electronic control systems. The sales staff must be able to describe the often complicated new inventions and gadgets so that the customer understands what is meant by it. The service and repair employees must be able to master new working methods and service techniques, troubleshooting and repair jobs.

The increased use of electronic control systems has moved repair jobs from the almost purely mechanical to the electronics area. Basically, the electronic systems of a modern motor vehicle consist of sensors placed in the different functional organs and a central computer. The sensors communicate information on the current condition to the central computer which processes the information and gives orders for action to the functional organs.

The following parts of a motor vehicle are controlled electronically:

- anti-spin of wheels
- ABS brakes
- engine control systems (carburettor)
- charge systems
- air bag (passenger protection in motor vehicle crashes).

Today, the crucial point in all repair jobs is troubleshooting. In isolated cases, it may take two days to locate a fault in a motor vehicle's electronic system and only a few minutes to replace the electronic component/unit that no longer works.

4.4.2 Development since 1987

Since 1987, the training and qualification goals have changed. In relation to more general qualifications, customer relations and customer service are now being stressed. In respect of technical and occupational qualifications, electronics is in demand.

The firm's policy on education, planning of educational activities and the organization of educational work has not changed since 1987.

4.4.3 Relation between participation in continuing vocational training courses and occupational career

As can be seen from Table 2, Chapter 4.3.1, in general, foremen participate in more continuing vocational training activities than the motor vehicle mechanics. This is presumably due to the fact that often the head foreman is the firm's only

participant in the importer's courses and that his task then is to communicate his new knowledge and information to his colleagues.

4.4.4 General description of continuing vocational training systems

For a detailed description of the structure of the continuing vocational training system within the motor vehicle sector, please refer to the Sector Survey on the Motor Vehicle Repair and Sales Sector in Denmark. The continuing vocational training activities offered by Volvo Danmark are described in Chapter 3.2.

4.4.5 Requirements and plans for the future development of continuing vocational training

When asked, the managers and other employees viewed the firm's training activities positively. This applies, too, for the importer's training activities and the rest of the training activities the employees attend.

Concerning ideas, requirements/demands and plans for future training activities in the firm, the management's viewpoint is that the present system works – and covers training needs very well, that the branch related trend goes in the direction of more training activities during free time. Competition means that the employees cannot be away from the firm and that, for example, computer training, which in the past was done during working hours, can now be done during time off/free time on portable PCs.

The employees have some concrete areas as to which courses could be provided. The mechanics are interested above all in courses in diagnostic techniques and electronic control systems. The salesmen find that there is a lack of basic training for their activity, i.e. fundamental and general training which new employees in the branch could attend.

Basic in-house training is the kind that is primarily needed and which is traditionally provided in the motor vehicle sector. This involves standardized basic education for business apprentices, motor vehicle mechanic apprentices and motor vehicle smith apprentices.

4.4.6 Curriculum concept

Two factors determine the contents and topics of the courses offered by the importer, Volvo Danmark: first, the new technologies applied in the new models; second, new tools and techniques used in repair and service jobs.

The contents and topics of the courses run by Metal Industriens Efteruddannelsesudvalg are determined by more general development trends in the motor vehicle sector.

4.4.7 Who carries out the continuing vocational training courses?

For the technical and occupational area, Volvo Vanløse A/S uses the importer's course (the importer is Volvo Danmark), and Metal Industriens Efteruddannelsesudvalg's courses as well as body work courses organized by the Danish Technological Institute.

Some of the employees in the business and administration departments participate in courses, e.g. EDP and accountancy, at commercial schools during their spare time.

In order to promote a uniform understanding of the firm's concept of customer service and quality, the firm arranges in-house courses with invited speakers lecturing on the topic of the course. Thus, the firm establishes a dialogue between management and employees, and amongst the employees.

4.4.8 Principles of preparation of continuing vocational training programmes

In practice, the planning of the courses, choice of topic, contents, time and place is left to the importer and Metal Industriens Efteruddannelsesudvalg.

4.4.9 Customer service training centres

Volvo Danmark, the importer, relies on its dealers' ability to sell, repair and offer good customer service. Therefore, the importer sees it as his main task to professionalise the dealers's management and employees in all aspects concerning:

- general development, communicated by means of continuing vocational training activities at all levels for management and employees;
- development of techniques and equipment, for instance by developing the diagnostic equipment.

4.4.10 Principles of pre-qualification of staff prior to launching products

Volvo Danmark runs courses on new models for salesmen, foremen and motor vehicle mechanics. Here, the importer communicates relevant technical specifications which the above-mentioned groups need in their jobs.

Every year, during the month of August, Volvo Vanløse A/S receives a catalogue from Volvo Danmark describing the autumn courses on next year's new models.

4.4.11 Changes in the training concept as a result of new technologies

As electronics are increasingly used in motor vehicles control systems, Volvo Vanløse A/S's aim is to send all its motor vehicle mechanics on the Metal Industriens Efteruddannelsesudvalg courses

on electronics, as well as specialized courses at Volvo Danmark.

4.4.12 Participation of social partners and trade associations

The employees can express their wishes as to the courses they want to participate in. Their wishes are based on the course catalogues from Volvo Danmark, Metal Industriens Efteruddannelsesudvalg and other course suppliers. However, the employees do not have any influence on the planning of course contents.

The Volvo Vanløse A/S managers do, however, have the possibility of influencing the importer's courses with regard to topics, contents and form. On Volvo Danmark's initiative, a series of committees on continuing vocational training has been set up among the dealers. The committees deal with the needs for continuing vocational training of the different categories of employees. Thus, there is a committee on passenger motor vehicles, a repair shop managers' committee and a spare parts committee.

The contents and topics of the courses which receive state funding and are run by state financed and managed Metal Industriens Efteruddannelsesudvalg courses are laid down by the labour market partners (cf. the Sector Survey of the Motor Vehicle Repair and Sales Sector in Denmark).

4.4.13 Collective agreements on continuing vocational training within the firm

Volvo Vanløse A/S does not have any agreement on continuing vocational training. However, the skilled workers who are organized in Dansk Metalarbejderforbund, the Union of Metal Workers in Denmark, are covered by the general agreement that entitles employees to one week of relevant continuing vocational training per year.

4.5 Costs of continuing vocational training (during the last five years)

Volvo Vanløse A/S does not have any fixed budget for educational activities. In practice, however, between four and five per cent of the employees 'present time' is spent on continuing vocational training.

The importer's courses are financed by Volvo Danmark, while Volvo Vanløse covers all employees's expenses: wages, travel expenses and lodging.

The courses provided by Metal Industriens Efteruddannelsesudvalg are supported financially by the AUD fund, the labour market's educational fund, which means that no course fee is paid and that the participating firms receive full wage compensation equal to 100 per cent of the highest daily allowance rate.

All other course activities are financed by the firm.

4.6 Evaluation of the costs

As the firm does not have a fixed budget for continuing vocational training, it does not bother to systematically evaluate the cost-benefit situation.

The firm's general attitude to continuing vocational training is that the employees should participate in continuing vocational training activities on a scale that ensures the employees' ability to live up to standards, i.e. that they can offer a customer service that makes customers return to do business with Volvo Vanløse A/S.

5. Evaluation of the training concepts

5.1 Evaluation of questionnaire for employees

In the case of the motor vehicle mechanics, evaluation of the questionnaire shows that six out of nine have attended the Metal Industriens Efteruddannelsesudvalg's course on basic electronics, step 1. In addition, several have participated in Volvo Danmark's course on basic electronics. Two out of three motor vehicle mechanics, who have not yet participated in Metal Industriens Uddannelsesudvalg's course on basic electronics, step 1, have participated in Volvo Danmark's course on basic electronics.

If we add several motor vehicle mechanics' participation in Volvo Danmark's course on electronic injection and other topics, the picture becomes very clear: the motor vehicle mechanics are mainly trained in electronics and electronic control systems.

In the case of the foremen, three out of four have participated in Metal Industriens Efteruddannelsesudvalg's course on basic electronics, step 1. In general, a characteristic feature of the foremen is that they have been participating in quite a lot of continuing vocational training activities. Consequently, they are considered to be very well qualified.

Further, all four foremen have participated in Volvo Danmark's course on administration where they were instructed and trained in the routines of ordering spare parts and handling of complaints, etc., in order to give customers a proper service in the repair shop.

With regard to technical and occupational training, the foremen are on the same high level as the motor vehicle mechanics. They are constantly undergoing training to ensure improved customer service.

5.2 Best practice/normal practice

Continuing vocational training is becoming more and more important, especially in after-sales service. According to Volvo Danmark's sales and

development manager: 'To sell motor vehicles is to invest in after-market service'. This statement must be seen in the light of the fact that the Volvo dealers earn their money in the after-sales market, and that the customers choose the dealer that offers the best after-sales service, i.e. current service check-ups and repair jobs.

5.3 Future demands for continuing vocational training

5.3.1 Need for mobility

One of Volvo Vanløse A/S's overall aims is for all motor vehicle mechanics to be qualified to carry out all types of repair and service jobs. This makes the firm more flexible with regard to the scheduling of repair jobs and service check-ups. It also makes the customer feel more comfortable and secure when he knows that only one mechanic is involved in the repair and service on his vehicle.

Thus, it is likely that in future there will be a need for mechanics to demonstrate greater functional flexibility.

5.3.2 Strategy for continuing vocational training

It is the declared wish of motor vehicle mechanics that all mechanics should be able to participate in the Volvo Danmark courses and not just the chief foreman as is the case now. The chief foreman is good at communicating new information and knowledge to the employees, but the employees do not doubt that the benefit from the importer's courses would be greater if they could take part in the courses themselves.

According to Volvo Danmark's sales and development manager, more frequent shifts in models, new diagnostic tools and qualified customer service will be the main themes in continuing vocational training activities in the years to come.

Given the realisation that the single dealer's business foundation and profitability is in Volvo Danmark's interest, too, Volvo Danmark supports the single dealer's management. They do this by carrying out profitability analyses and action plans based on the results of the profitability analysis. The dealer's management and consultants from Volvo Danmark discuss the key figures in the profitability analysis and elaborate action plans: where should the dealer concentrate its efforts and where can Volvo Danmark support the dealer? Normally this exercise takes a couple of days.

For further information, cf. Chapter 4, Paragraph 4.4.5 'Requirements and plans for the future development of continuing vocational training'.

6. Conclusions in relation to best practice and normal practice

Primarily, Volvo Vanløse A/S makes use of the continuing vocational training courses for salesmen, foremen and motor vehicle mechanics offered by the importer, Volvo Danmark, and Metal Industriens Efteruddannelsesudvalg.

The firm does not systematically plan training activities. The employees discuss the need for skill upgrading and which courses meet their needs. Wishes for continuing vocational training are communicated to the repair shop foremen or the sales manager who take the decision. Often, however, it is the foremen who suggest that the motor vehicle mechanics participate in a specific continuing vocational training course.

Volvo Danmark, the importer, has set up a series of committees on continuing vocational training in which the dealers can come up with their suggestions or comments on the importer's range of continuing vocational training courses. Generally, it can be said of importer's courses that great efforts are being made to develop the contents and topic of the courses at a speed and on a quality level which will enable the dealers to always be able to offer the best service possible in order to make sure that customers return to the dealer for a new vehicle or for service and repair jobs. Thus, it may be said, too, that the importer acts out of self interest because his turnover depends on the dealer's volume of new motor vehicle sales.

The courses within the framework of Metal Industriens Efteruddannelsesudvalg are developed centrally by the labour market partners.

The courses are based on the general trends in the motor vehicle trade. Volvo Vanløse A/S is especially interested in the courses on electronics.

Identical estimates from importers', dealers' managements and employees predict that in the technical and occupational field, technical specifications in connection with even more frequent launchings of new models and new diagnostic tools will dominate continuing vocational training efforts in the future.

Equally, unanimous estimates predict that in the 'soft area', customer relations will remain the central issue. Today, employees at all levels must be able to serve customers in a highly qualified manner.

2. MAGNETO KØGE APS

Size of Firm: II

Brand name: All

Category of Motor Vehicle: A, B, C

Type of Firm: F

1. General description of the case

Magneto Køge ApS is an authorized Bosch-dealer/repair shop located in the town Køge on Zealand.

The case description is based on a visit to the firm on October 19, 1992. In connection with the visit, there have been interviews with the owner, who is the sole owner and managing director of the firm, and one of the motor vehicle mechanics. The visit also included a tour of the firm's departments. The impressions of the DTI consultant are included in the case description.

2. General description of the firm

2.1 Major data on the firm

Magneto Køge ApS is an authorized Bosch-dealer/repair shop and a specialist in motor vehicle electronics. It takes in a geographical area on the east part of Zealand, the borders of which are marked by the towns Ishøj, Roskilde, Ringsted and Faxe.

The firm is a Bosch-dealer/repair shop which means that:

- the firm is a sales and repair service specialist of Bosch products, mainly for cars and the firm has a contractual obligation to Robert Bosch A/S in Denmark, who imports and distributes Bosch products;
- Bosch products can be marketed in cooperation with the importer,
- the firm can make use, free of charge, of the importer's courses for staff training and of microfilms, motor vehicle data books (technical data) and manuals on the service and repair of motor vehicles;
- the importer supervises to some extent the firm's technical equipment and business situation.

Besides being a Bosch-dealer and repair shop, the firm is authorized to install, inspect and repair tachographs (as provided by Order No. 649 of 24/9-1986 from the Ministry of Labour on industrial safety in connection with road traffic, included in the EEC Regulation No. 382185 for tachographs in cars).

The firm's core activities are:

- servicing, trouble-shooting, diagnosing and repairing electrotechnical, electronic, and (to some extent) mechanical systems and components in motor vehicles and contractors' supplies of different brands;
- installation, inspection and repair of tachographs and engine warmers;
- sale of Bosch components and spare parts, and
- repair of electric tools and electric components for motor vehicles, the so-called "loose tasks".

2.2 Brief history of the firm and recent strategy and development

The firm's name originates from the importer Robert Bosch A/S, which started import trade in Denmark in 1918, under the name Magneto.

The firm's owner was previously employed as foreman of the then existing Bosch repair shop in Copenhagen.

In 1981 the owner and a partner bought the firm, which was established in 1980, and a similar firm in Copenhagen.

Later the owner sold hiš share of the firm in Copenhagen and bought the partner's share in the existing firm, Magneto Køge ApS.

The developments within motor vehicle technology, which enable the motor vehicles to last longer and stay on the road for a longer period between service inspection, the fact that customers are more quality and especially price conscious, all this coupled with the general economic recession, has led to a decline and even a crisis in the motor vehicle industry. The firm has also been affected by this: today it has a considerably lower level of activity than 4-5 years ago.

In the owner's opinion the motor vehicle industry in Denmark is more divided and specialized than in other countries, e.g. Germany. The firm will, therefore, be able to increase its activity level and be in a stronger position in the future if they, with Bosch ensure that:

- to a greater extent than now they "will be able to carry out service and repair work on equal terms with the brand repair shops". The electronics, which are so dominating in the motor vehicles, are one the firm's core strengths and "Bosch products cover more than 80 per cent of the world market", and
- they keep abreast of the development, both in know-how and equipment.

But "the future of the motor vehicle trade and the firm will still be tough, due to:

- the need for continuous large investments in modern repair shop equipment, especially test equipment,
- the longer intervals between the motor vehicles' inspection and
- fall in gross profits from spare parts".

2.3 Structure of the firm

The firm has the same legal status as a private firm with the owner as sole shareholder and manager.

The firm is made up of three departments or function areas: service and spare parts, repair shop, and administration.

The service and spare parts department is run by the spare parts salesman. Service and repair orders of the customer's motor vehicle (what is to be done and when) are recorded in an order sheet.

The repair shop tasks are attended to by the skilled motor vehicle mechanics on the basis of the order sheet. The repair shop department consists of three shops: motor vehicle shop, lorry shop, and component shop. In principle they are capable of doing service and repair work on all motor vehicle types and models. The owner participates in the distribution, management and control of the daily work shop repairs; he also carries out certain types of work himself. There is no formal division of labour between the work shops' employees; each employee can perform all types of motor vehicle service, except repair and adjusting the tachographs, which is done by the authorized person.

The administrative tasks (e.g. invoicing, book-keeping, customer registration, correspondence, calling the customers in for motor vehicle inspection services or tachograph control) are carried out by the firm's white collar workers.

2.4 Human resources

At the end of 1992 the firm had the following employees:

Service and spare parts		
– spare parts salesmen:	1	(2)
Repair shop		
– motor vehicle electricians:	2	(5)
– apprentice, motor vehicle electrician:	1	(2)
Administration		
– white collar workers:	1.3	(1.3)
Management:	1	(1)
Total	6.3	(11.3)

The numbers in brackets give the number of employees in 1987

All employees are men, except the white collar worker, and all are Danes and full-timers.

The employees' length of service is as follows:

- spare parts salesman: 12 years
- motor vehicle electrician: 11 years
- motor vehicle electrician: 9 years
- apprentice: 1 year
- white collar worker: 4 years
- management: 11 years

Working hours for the first five days of the week are from 07.45 to 16.00. On Saturdays working hours are from 07.45–13.00.

Conditions of employment and wages are as follows:

- Spare parts salesman and white collar worker have status as white collar worker and have a monthly salary.
- Motor vehicle electricians and apprentices are hourly-paid according to the collective agreement, but in practice they have a monthly salary and receive full salary during sick leave.
- There are no piece-rate or bonus agreements in the firm in addition to the fixed wages under the collective agreement.

It is the firm's general recruiting policy that the employees must have attended the relevant Basic Vocational Education and possess the relevant technical skills at the time of their employment.

This means that staff in the repair shop department in particular, who undertake the firm's core activities, must be skilled motor vehicle electricians, they must master the trade's newest methods and techniques and must be prepared to update their skills in line with developments in the trade.

3. Providers of continuing vocational training

3.1 Structure of the firm

The owner of the firm is directly involved in staff training. He is sent course programmes by the external course providers, he talks to the employees about which courses they are interested in and arranges for enrolment. Normally the courses take place during working hours, but there are also

evening courses. The day courses are paid for by the providers and the firm pays the employees their salary during the course, i.e. they pay the difference between the normal salary in the firm and the public "course salary". The course fee for the evening courses is paid by the firm. There are no in-house courses in the firm.

3.2 Structure of Customer Service Training Centres

The importer (Robert Bosch A/S) plays an important role in product-related training activities. Normally they are made up of (1) 2-4 1/2 day's course at Bosch's training centre, (2) various kinds of documentation materials (e.g. microfilm, compact disks, manuals), and (3) the new "System engineering training".

Training activities cover a relatively broad spectrum of subjects like the following:

- Electronics
- Mechanically operated petrol injection
- Electronically controlled petrol injection
- Motor Management – Motronic
- Electronic ignition systems
- Carburettors – GAV
- Blocking free brakes – ABS
- The diesel engine and its fuel system
- VDO – 12V speed control system
- VDO – 24V speed control system
- VDO AGB – automatic speed limit
- Heater installation:
  - general course
  - product know-how, and
  - installation in boats
- Alarm devices – sale, installation and trouble-shooting
- Customer service

Employees from several dealers attend the importer courses because each firm cannot send more than two employees at a time. This means that there is a need for the employee to communicate the knowledge acquired during the course to other relevant employees. They talk about the new things they have learned.

3.3 Structure of public centres

Public centres offering continuing vocational training generally cover the motor vehicle area as a whole. Therefore, please refer to the description in The Sector Survey on the Motor Vehicle Repair and Sales Sector of Denmark.

4. Training policy of the firm

4.1 Existence of training plans or training concepts on repair shop level

The firm does not have a formulated training policy, a training committee or a separate training budget. However, the firm does earmark approx. DKR 10,000 for employee training in their annual budget.

Furthermore, the owner believes that at all times employees should have the necessary qualifications. Employees must therefore participate each time a course is offered which is relevant to the firm. This was confirmed in the interviews with the employees.

4.2 Inter-linkage of training concepts and demand

4.2.1 Analysis of required skills

Magneto Køge ApS does not analyse qualification needs in order to define the qualification needs among the different groups of employees. But employees do discuss with the employer what they feel they should know more about, their specific needs. This forms the basis for the choice of courses. Inversely, the new courses offered have an impact on the discussions and determination of the needs for training. As one employee said: "We discuss the needs for skill updating and participation in courses on new technological development. The firm (the owner) is keen on telling us about technological developments and the courses offered. The firm's training efforts are good; we know about the courses being offered, and we are allowed to reject them; it is left to us to make use of the opportunities".

4.2.2 Connection between required skills and training concepts

It is the general impression that the course providers continuously endeavour to offer courses which satisfy the qualification needs of different groups of employees. This applies to special technical courses within the firm's core activities, information technology courses for white collar workers, and general courses in e.g. customer service, signboard writing and window display technique.

4.3 Target groups of training

The participants in the continuing vocational training are primarily the workshop staff, and to some extent the owner. But also the spare parts salesmen and white collar workers participate. White collar workers attend the computer supplier course.

4.3.1 Participation in continuing vocational training courses (1987 to 1992)

Example: Magneto Køge ApS, Number of course days per employee

	Category of employee	
	Motor vehicle mechanics	Spare parts salesmen
Up to October 1992	3.25	–
1991	5.75	0.5
1990	2.0	–
1989	6.75	–

Source: Magneto Køge ApS

The above-mentioned courses were mainly carried out on the importer's premises (Bosch Training Centre), except two courses, which were held at the Danish Technological Institute.

4.3.2 Access to continuing vocational training

The firm regularly receives (twice a year) a catalogue with a description of the forthcoming courses available from the importer, Robert Bosch A/S, from Metal Industriens Efteruddannelsesudvalg (The Danish Metal Industries' Committee on continuing vocational training) and from technical schools. The catalogues contain a description of the target groups, aim and subject matter, and place of course and duration. The owner and the employees then discuss whether there is a need to participate.

Participation in vocational training is, in principle, voluntary and the employees are ensured against loss of salary during the courses, as mentioned previously.

The way in which each individual employee manages to attend the courses is very simple. The employees make an agreement with the owner about who should attend which course and when, and then they enrol for a particular course. The initiative can come from both the employees as well as the owner.

The employees, who have participated in a course, receive a certificate for attending the course from the course provider. The certificate is typically kept by the employee. There is no total systematic registration in the firm of employees' participation in the courses.

4.4 Training plans

4.4.1 Aim of the training

The overall aim of continuous vocational training of the firm's employees is always to keep them up-to-date with the skills required.

The qualification requirements to the employees have changed during the past years, and several factors have led to these changes.

One of the main reasons for changes in qualification requirements is the development of the technology applied in motor vehicles, especially the development in the electronic control systems. Electronics regulate the motor, transmission, and make sure that comfort and safety are in order. It also reduces maintenance and repair expenses.

In a motor vehicle repair shop, the most important tasks of the service and repair employee are troubleshooting. Furthermore, the quality of the employee is primarily dependent on his skills as well as his care.

The training activities within motor vehicle industry aim at giving the employees competence so that the repair shops will always make a correct diagnosis and work rationally with the help of modern methods, test equipment and tools.

However, changes in laws and provisions, competition and the way the firm meets the customers, also lead to changes in demand. Customers have thus become increasingly quality and, more especially, price conscious.

4.4.2 Development since 1987

The firm's policy and practice in the training of its employees have hardly undergone any changes since 1987. However, some changes have been made concerning the aim and subject matter of the employee's education since 1987. In respect of technical and occupational qualifications, the emphasis is now on electronic control systems. In more general qualifications customer relations are being stressed.

4.4.3 Relation between participation in continuing vocational training courses and occupational career

It is quite obvious that performance improvement through training activities is absolutely necessary in order to meet the new qualification requirements in a job and to avoid unemployment – and this not only with regard to an occupational career involving more competence and responsibility.

4.4.4 General description of continuing vocational training systems

For a detailed description of the structure of the continuing vocational training system within the motor vehicle sector, please see the Sector Survey in the Motor Vehicle Repair and Sales Sector in Denmark. The continuing vocational training for Robert Bosch A/S is described in the survey, chapter 3.2.

4.4.5 Requirement and plans for the future development of continuing vocational training

When asked, the owner and other employees viewed the firm's training activities as positive. This also applies to the importer's training activities and other training activities the employees had attended.

"The importer's courses are fine; they are ahead of development with a good balance between theory and practice. But sometimes they are a bit too fast – especially the course material is not always applicable – or well-prepared. If there is fault in a motor vehicle e.g., you cannot look it up without having some difficulty and get an explanation of how things work and functions; the explanations in the material are not so specific – but things have improved", says one of the mechanics.

An employee emphasizes one specific area, which a new course could focus on; that is customer service, or more precisely "how can you satisfy a customer?" A former Saturday course in customer service, in which the owner, mechanics and the spare parts salesmen were going to participate, was cancelled because of too few participants.

With regard to ideas, demands and plans for the future training activities in the firm, it is the owner's opinion that the current system functions – and covers the requirements well, that the employees are interested in participating in the training activities, that it is important that the employee participates every time a new relevant course is offered, and that the training is carried through in such a way that it is adapted to the individual participant's qualifications, requirements, and possibility of participating.

The owner has a favourable attitude to – and has an interest in – new ways of continuing vocational training, e.g. distance learning courses and/or learning at the workplace. He says that in 1983 BMW produced an inter-active video programme including 30 cassettes. He bought the programme and the hardware for DKR 60,000 in order to test whether the employees could receive in-house training by means of new technology in the firm, instead of in external training courses. The programme made a great impression on him – "it was super" – and he hopes that the possibility of continuing vocational training at the workplace will improve in future.

4.4.6 Curriculum concept

Two factors determine the contents and topics of the courses offered by Robert Bosch and the other course providers. First, the development in the motor vehicle industry and, by extension, the new technology applied in the new models. Secondly, development of the test equipment which is used in the repair shops in maintenance and service jobs.

4.4.7 Who carries out the continuing vocational training courses?

For the technical and occupational area, Magneto Køge ApS makes use of Robert Bosch's course and to some extent the courses at technical schools and tachograph courses at the Danish Technological Institute/Lukas.

4.4.8 Principles of preparation of continuing vocational training programmes

In is mainly the importer and Metal Industriens Efteruddannelsesudvalg, who define the training requirements, develop and plan the training courses with regard to aim and subject matters, location and how often the courses are to be held.

The owner of the firm is a member of the motor vehicle trade's technical committee – which e.g. decides whether a repair shop can be authorized to train apprentices, is involved in the elaboration of new plans for the training of the apprentices at the technical schools – and is a member of the board in Motorbranchens Arbejdsgiverforening (Danish Motor Vehicle Industry's Employer's Association). He gets an idea of what is happening in the motor vehicle trade, and has the chance of influencing the trade's training possibilities and development.

4.4.9 Customer service training centres

Robert Bosch depends on his dealers' ability to sell Bosch products, make repairs and offer good motor vehicle service rationally with the aid of modern test equipment and tools. Therefore, the importer sees it as his main task to keep the dealers' management and employees up to date with the developments in the motor vehicle industry. This can actually be done in two ways:

- skill development, primarily through technical vocational training activities for mechanics. These activities are mainly run at the importers training centres, and
- development of techniques and equipment, so that the dealers' employees make the correct diagnoses and work rationally with the aid of modern test equipment and tools.

4.4.10 Principles of pre-qualification of staff prior to launching products

Robert Bosch runs courses on new motor vehicle models for salesmen and mechanics in all Bosch-systems, Bosch-testers, and the interaction between the testers and the individual systems. The firm receives regularly a catalogue describing the next courses.

4.4.11 Changes in the training concept as a result of new technologies

Since developments in the motor vehicle industry are dominated by electronic control systems, it is imperative that all employees attend the importer's courses in order to obtain know-how, so that the repair shop always makes the correct diagnosis and works professionally and rationally with the aid of modern test equipment and tools.

4.4.12 Participation of social partners and trade associations

The employees can express their wishes as to the courses they want to participate in, based on the course catalogues which the firm receives from the importer, Metal Industriens Efteruddannelsesudvalg and other course suppliers. The employees do not have any influence on the planning of course contents.

However, Magneto Køge ApS might have the possibility of influencing the importer's courses with regard to topics through the owner's participation in the organization.

The contents and topics of the state financed and managed Metal Industriens Efteruddannelsesudvalg courses are laid down by the labour market partners. (cf. the Sector Survey of the Motor Vehicle Repair and Sales Sector in Denmark).

4.4.13 Collective agreements on continuing vocational training within the firm

Magneto Køge ApS does not have any agreement on continuing vocational training, but the skilled workers who are organized in Dansk Metalarbejderforbund, the Union of Metal Workers in Denmark, are covered by the general agreement that entitles employees to one week of relevant continuing vocational training per year.

4.5 Costs of continuing vocational training (during the last five years)

Magneto Køge ApS does not have a fixed budget for training activities although it does earmark approx. DKR 10,000 of the annual budget for employee training.

The importer's courses are financed by the importer, but the firm covers the employee's expenses: wages, travel expenses and lodging.

The courses provided by the Metal Industriens Efteruddannelsesudvalg are supported by the AUD fund, the labour market's educational fund, which means that no course fee is paid. The firm gets full wage compensation equal to 100 per cent of the highest daily allowance rate. The difference between the employee's normal wages and the daily allowance rate is paid by the firm.
All other course activities are financed by the firm.

4.6 Evaluation of the costs

The firm does not systematically evaluate the cost-benefit ratio of the courses. But the owner and the employees interviewed each assesses the firm's training activities as very positive. The firm's general attitude to the issue of continuing vocational training is that the employees should participate in continuing vocational training activities to a degree that ensures the employees' ability to live up to standard, i.e. that they have the necessary occupational qualifications.

5. Evaluation of training concepts

5.1 Evaluation of questionnaire for employees

The information received is built on structured interviews and conversations with the employees in the firm. No questionnaires have been used in the research.

5.2 Best practice/normal practice

Please see Chapter 4, "Training policy of the firm".

5.3 Future demands for continuing vocational training

5.3.1 Need for mobility

It is a "must" for the firm that all mechanics are competent enough to do all types of repair and service jobs on the motor vehicles. This makes the firm more flexible with regard to the scheduling of repair jobs and service check-ups.
The future will demand greater functional flexibility of the motor vehicle mechanics.

5.3.2 Strategy for continuing vocational training

Please see Chapter 4.4.5 "Requirement and plans for the future development of continuing vocational training".

6. Conclusions in relation to best practice and normal practice

Magneto Køge ApS mainly participates in the importer's courses for continuing vocational training of the employees, but also in Metal Industriens Efteruddan-nelsesudvalgs courses.
No formalized systematic education planning has been made. They discuss the qualification requirements and wishes for participation in the courses offered. The employees discuss with the owner which of them are interested and need to participate in the course. The initiative for participating in the course can come from both the employees as well as the owner.

The importer is keen on developing the training courses which qualify the dealers to sell Bosch products and carry out repair and service of motor vehicles rationally with the aid of modern test equipment in line with developments in the motor vehicle industry.

Metalindustriens Efteruddannelsesudvalgs courses are developed centrally by the labour market to reflect developments in the motor vehicle industry and the trade. The courses on electronic control systems in motor vehicles are of the greatest interest to the firm.

With regard to future training, it is the owner's hope and expectation that the training requirements still can be satisfied. He believes that new ways of qualifying oneself will emerge, such as distance learning courses and training at the workplace which will mean that the motor vehicle mechanics' possibility of participating can be improved.

3. ROSKILDE DIESEL OG BREMSESERVICE A/S

Size of Firm: III

Brand Name: All

Category of Motor Vehicle: A, B, C

Type of Firm: D

1. General description of the case

Roskilde Diesel og Bremseservice A/S is an all-round repair shop situated in Roskilde, a town with 50,000 inhabitants approx. 30 km from the capital Copenhagen.

The case description is based on a visit to the firm on October 15, 1993. During the visit interviews were conducted with the owner and one motor vehicle mechanic, the owner's son. Moreover, the case description draws on the impressions of the DTI consultants during a tour of the firm. The duration of the visit was 1 day.

2. General description of the firm

2.1 Major data on the firm

2.1.1 Type of firm

Roskilde Diesel og Bremseservice A/S is an all-round repair and service shop that carries out all types of repair and service jobs on passenger cars as well as vans and trucks. They specialise in diesel engines, brakes, heating systems and tachographs.

2.1.2 Form of repair and distribution

Roskilde Diesel og Bremseservice A/S carry out repair jobs on both passenger cars and vans. The firm does not deal in sales.

The core services are:

- Troubleshooting, diagnosis, repair and adjustments of diesel engines, brakes and rear axles of commercial vehicles. The Danish Motor Vehicle Dealers Association has given the enterprise authorization to carry out brake controls on heavy vehicles.
- Sale, mounting and repair of oil-fired heating systems, mostly for commercial vehicles. Until recently, the firm mounted heating systems in all buses in use in the area north of Copenhagen.
- Mounting, measuring and adjustment of tachographs in lorries and buses.
- Preparing motor vehicles for inspection.

Furthermore, the firm carries out ordinary service and damage repair jobs on motor vehicle bodies of all brands, which they receive. 75 per cent of the jobs carried out, are repair jobs.

Being a specialist in diesel engines, there are a number of dealers and repair shops in local areas, which let Roskilde Diesel and Bremseservice A/S carry out complicated repairs on diesel motor vehicles, e.g. passenger cars and vans, which are delivered to their repair shop. In this way the dealers and repair shops are customers at Roskilde Diesel og Bremseservice A/S on equal terms with other firms.

Because Roskilde Diesel og Bremseservice A/S can be regarded as a specialist, the firm uses a number of special tools for carrying out different types of tasks:

- A roller path for testing brakes.
- A roller section for measuring speed, moment of rotation and performance. In this section repair and adjustment of fuel pumps in diesel engines and adjustment of ignition installations in petrol engines are made.
- Tensile tools and "dozer" for flattening out motor vehicle bodies.

2.1.3 Location of the firm

The firm is located in an industrial and housing area in Roskilde, which is a middle sized Danish provincial town with 50,000 inhabitants approx. 30 km from Copenhagen.

2.1.4 Size of the firm

The firm's turnover in 1991 was DKR 3.6 million. It has 11 employees including the owner.

2.2 Brief history of the firm and recent strategy and development

- Roskilde Diesel og Bremseservice A/S was established in 1961 by the present manager and partner.
- In 1965 the firm moved to the present premises.
- In 1991 the partner left the firm and the present manager became the sole owner.

Roskilde Diesel og Bremseservice A/S has a stable and satisfying flow of tasks. Because of this, marketing of the firm's services is insignificant. The only kind of marketing the firm has is when the local advertising paper has a special motor vehicle supplement twice a year. The firm then has a small advertisement in the newspaper.

2.3 Structure of the firm

2.3.1 Organization of the firm

Roskilde Diesel og Bremseservice A/S does not have an "official" firm organization plan. However, in practice the firm does have a management, an administration department and a repair shop/spare parts department, which all follow predetermined directions.

Besides the management tasks the owner also takes part in the repair and service tasks. The distribution of the tasks is done by the owner himself together with his son, who is a motor vehicle mechanic in the firm. Today, the son has status as a foreman, and he will one day take over the management of the firm.

In the repair shop the motor vehicle mechanics are specialized in their specific areas. They primarily carry out tasks on the basis of this, but in practice and depending on the amount of orders and types, they all help each other.

Two part-time female staff are responsible for the administration department.

2.3.2 Occupational structure

There are 11 employees in the firm: the owner, 4 motor vehicle mechanics, 4 apprentices and 2 part-time white collar workers in the administration department.

2.3.3 The organization of work and work processes

The organization of the work in the repair shop is based on three main principles, namely:

- that a customer order, which is received in the morning, must always be executed the same day, and
- that the work is divided according to function, i.e. the nature of the work, complexity and the competence of the mechanic, but also
- that the work can be distributed according to the principle that everybody helps each other, when necessary.

Otherwise the work process of an order is as follows:

- The owner or one of the white collar workers receives an order by phone. They try to locate the fault in the motor vehicle, and make reservation for the motor vehicle repair, and in some cases they agree on a price.
- An order sheet is prepared based on the information received.
- The owner and sometimes the son distribute the work on the basis of the motor vehicle mechanics' special qualifications, so the order is sure to be performed correctly and by the appointed time.
- The tasks are distributed according to function, which means that there is one motor vehicle mechanic, who primarily performs weld and motor vehicle body repair. Another mechanic performs other tasks. Finally, it is primarily the owner and the son, who install and repair tachographs, and tasks in connection with the mounting and repair of oil-fired heating systems in buses.
- The tasks are performed individually, as mentioned above, but sometimes also in groups dependent on the nature and urgency of the task. In these cases, it is the mechanic with special qualifications within this particular area, who is in charge of the specific piece of work in the group.
- The owner or the son controls the work performed.

2.4 Human resources

2.4.1 Development and number of employees

Previously, there had been 7 mechanics employed in the firm. There are now only 4 mechanics which is not due to lack of orders or recession, but according to the owner, his firm with eleven employees has sufficient tasks, which he can manage and distribute alone. If the firm should employ more mechanics, it would also necessary to employ a spare parts salesman and maybe a foreman. The owner doubted whether a small expansion of the firm's activities would be profitable, as the firm expenses would increase just as much.

However, the owner emphasized at the same time that with the current influx of orders, the firm would not be able to manage with fewer employees than the ones employed at the moment. In periods with peak load, the increased amount of work is solved by overtime, which the employees are willing to do.

2.4.2 Labour force (age group, sex, nationality, conditions of employment)

The two part-time white collar workers are females. The remaining 9 employees are males.

The length of service of the 4 mechanics in the firm is 28 years, 13 years and two times 5 years respectively. The 3 mechanics with the shortest length of service had been trained at Roskilde Diesel and Bremseservice A/S.

All employees are Danes.

2.4.3 Working conditions

For the three occupational categories, white collar workers, mechanics and apprentices the following salary conditions are:

- White collar workers have a permanent monthly salary.
- The mechanics are paid by the hour. Furthermore, a bonus is paid based on the firm's

turnover during the past year, corresponding to DKR 5 per productive hour.

- Apprentices are also paid by the hour and also receive a bonus based on the firm's turnover during the past year. However, only DKR 2.50 per productive hour.

All employees work full-time, except the two part-time white collar workers.

2.4.4 Level of education of the labour force

All employees in the firm with relation to the repair shop are either motor vehicle mechanics or motor vehicle mechanic apprentices.

If the firm were to recruit new motor vehicle mechanics, which has not been the case for many years, the owner's recruiting policy would require that the applicants must possess both technical as well as personal skills. With regard to the technical requirements, they would of course have to be skilled motor vehicle mechanics. The owner stressed that the applicant's personal skills must include the ability to serve the customers properly, and in this way represent the firm professionally. Furthermore, the owner wants stable employees, as a small firm like Roskilde Diesel og Bremseservice A/S, which repairs motor vehicles the day they arrive, is extra sensitive to any kind of absence.

3. Providers of continuing vocational training

3.1 Structure in the firm

Besides the training from colleagues, when the mechanics work in groups, there are no in-house courses in the firm.

3.2 Structure of Customer Service Training Centres

Being a non-authorized all-round repair and service shop, the firm is not attached to any particular importer's training courses. As a non-authorized firm it does not have access to the importer's training courses, no matter how great the interest is.

The firm's employees participate, however, in some of the importer's product courses or information meetings, such as Webasto, or in some private training courses, like DTI, Ketner or Bosch.

3.3 Structure of public centres

Public centres offering continuing vocational training generally cover the motor vehicle area as a whole. Therefore, please refer to the description in The Sector Survey in the Motor vehicle Repair and Sales Sector of Denmark.

4. Training policy of the firm

4.1 Existence of training plans or training concepts on repair shop level

Roskilde Diesel og Bremseservice A/S does not have a training policy, training committee or a separate training budget.

There are no training plans on repair shop level. The "training plans" are carried out in practice, when the owner puts up a poster with the names of courses and information meetings the following year. The mechanics can inform the owner if there are one or more courses which are of interest to them. Then the owner and the mechanics discuss their wishes.

If the courses are held during working hours, it is a main rule in the firm that only one mechanic participates in a course at a time.

4.2 Inter-linkage of training concepts and demand

4.2.1 Analysis of required skills

The firm does not carry out qualification analyses to define the mechanics' qualification needs. The firm's approach is less formal: the mechanics and the owner discuss the needs for skill updating.

4.2.2 Connection between required skills and training concepts

Most of the firm's training requirements are covered by participation in Metal Industriens Efteruddannelsesudvalgs (the Danish Metal Industries' Committee on continuing vocational training) courses at technical schools, importer's product courses or special courses at private course providers.

However, it is a general problem for Roskilde Diesel og Bremseservice A/S that it handles Bosch products and other "authorized" products without having access to all their training courses for authorized dealers and repair shops. In order to solve the problem Roskilde Diesel og Bremseservice A/S falls back on local authorized access: they borrow the manuals and instruction materials which are used by the employees as a kind of "self-tuition". The enterprise does, however, have access to certain courses, especially courses on brakes and ABS techniques.

4.3 Target groups of training

4.3.1 Participation in continuing vocational training courses (1987 to 1992)

Not all the mechanics at Roskilde Diesel og Bremseservice A/S, are equally interested in continuing vocational training.

For example the mechanic, who has been employed for 28 years, does not want to participate in a training course. He has mainly carried out welding and motor vehicle body repair, which has not required any training course so far.

In practice, it is primarily the owner and the son, who have participated in the training within the period 1987–1992. One exception is one mechanic's participation in a 4-day course at Roskilde Technical School on electronic petrol injection in 1992. The following table only shows the training of the owner and the one mechanic (his son):

Table 1 – Roskilde Diesel og Bremseservice A/S: Number of course days 1987–1992 for the manager and a mechanic respectively

	Mechanic	Manager
1987	5 days	3 days
1988	2 days	0 days
1989	0 days	3 days
1990	0 days	4 days
1991	4 days	4 days
1992	5 days	1 days

Source: Roskilde Diesel og Bremseservice A/S

The extent of the owner's and son's participation in courses varies very much from year to year. There can be several reasons: they have not had time to participate or there have not been any courses, which have been of interest to the firm, or else the relevant courses have been cancelled. One general criticism was made of the Metal Industriens Efteruddannelsesudvalgs courses: they are cancelled all too often because of lack of participants. This must be seen in relation to the fact that the course will not be offered again for another six months or year.

4.3.2 Access to continuing vocational training

As mentioned before all mechanics can, in principle, undergo training if they are interested, but in practice it is only the owner, the son and another mechanic, who have participated in training during the period 1987–1992.

4.4 Training plans

4.4.1 Aim of training

The overall aim of the firm is for at least one of the employees to perform the tasks, which the firm has taken on. It is not the aim for all mechanics to be able to do all types of service and repair jobs, but that the mechanics can be considered as one unit being able to execute all types of repair jobs, each with his special qualifications.

4.4.2 Development since 1987

Besides keeping its core services up-to-date (diesel engines and brakes) by participating in courses, the firm has also attended courses in electronics, e.g. electronic controlled petrol injection, since 1987.

The development of the technology used in motor vehicles, for instance new electronic control systems combined with quick troubleshooting and diagnosis, demands new qualification requirements of the mechanics. The mechanics must be able to master the new technology and use the diagnostic tools. It is the owner's experience that the "older" mechanics were a bit afraid of this new development.

The owner stated further that many repair jobs in the firm i.e. rear axle or axle repairs have not changed during the past years, and that the repair jobs require "the old traditional" motor vehicle mechanic skills.

4.4.3 Relation between participation in continuing vocational training courses and occupational career

As mentioned before, it is primarily the owner and his son, the future manager of the firm, who have participated in training. One could say there is relation between participation in training and occupational career. Whether this is intentional, or because the other mechanics have shown little interest in training is difficult to say.

4.4.4 General description of continuing vocational training systems

For a detailed description of the structure of the continuing vocational training system within the motor vehicle sector, please refer to the Sector Survey on the Motor Vehicle Repair and Sales Sector in Denmark. For the supplier courses and the private courses, in which the firm participate, please refer to Chapter 3.2 "Structure of Customer Service Training Centres".

4.4.5 Requirements and plans for the future development of continuing vocational training

It is nice for the firm to know that the Metal Industriens Efteruddannelsesudvalg, suppliers and the private course providers currently offer training courses which are up-to-date with subject matters and content.

The Metal Industriens Efteruddannelsesudvalgs courses were criticised for having too many cancellations in relation to how seldom the courses were on offer. It was also felt that training did not pay any attention to the participants' qualifications. The mechanic mentioned an example from a course in electronic controlled petrol injection, in which the tutor's lessons were on a high level compared to the mechanic's knowledge in this area. The consequence was that the mechanic did not benefit quite as much from the course as he had wished.

4.4.6 Curriculum concept

The Metal Industriens Efteruddannelsesudvalgs courses' contents and topics are determined by more general development trends within the motor vehicle sector. It is the task of Metal Industriens Efteruddannelsesudvalgs to identify these development trends.

Webasto's motor vehicle heater courses or information meetings are product courses the contents of which are specifically directed towards new products.

On completion of the tachograph courses, participants are given a certificate the content of which is laid down in an EEC regulation (No. 382185) on tachographs in motor vehicles.

4.4.7 Who carries out the continuing vocational training courses?

The firm's employers attend the continuing vocational training courses from three providers:

- The mechanics participate in Metal Industriens Efterudannelsesudvalgs courses in electronics, diesel engines and brakes at the technical schools. These courses generally cover the whole motor vehicle sector.
- The owner and the son also participate in the courses and information meetings at Webasto, which is a supplier of motor vehicle heaters (oil-fired heating systems). The owner and the son are the only ones, who have special competence in installing and repairing motor vehicle heaters and tachographs.
- Finally, the firm participates in tachograph courses. These courses are offered by private course providers such as Ketner and DTI.

4.4.8 Principles of preparation of continuing vocational training programmes

In practice, the planning of the courses involving choice of topic, contents, time and place is left to the importer, private course providers and Metal Industriens Efteruddannelsesudvalg.

4.4.9 Customer service training centres

Please refer to Chapter 3.2 "Structure of Customer Service Training Centres".

4.4.10 Principles of pre-qualification of staff prior to launching products

With regard to pre-qualifying the employees in relation to the new products, the owner and the son participate in Webasto's motor vehicle heater courses and information meetings, whose status is similar to the real product courses.

4.4.11 Changes in the training concept as a result of new technologies

There is of course a change in the courses offered to reflect the application of new technology in motor vehicles or the repair of motor vehicles. During recent years, these have primarily been courses in electronic control systems.

Concerning troubleshooting in the electronic control systems, so far the firm has been able to manage with relatively simple diagnostic tools. The mechanic examines the different circuit boards with measuring equipment to see if there is an electric current between each component. According to the mechanic interviewed, the firm will have to invest in better diagnostic equipment in the near future, for which continuing vocational training is necessary.

4.4.12 Collective agreements on continuing vocational training within the firm

The mechanics, who are organized in Dansk Metalarbejderforbund, the Union of Metal Workers in Denmark, are covered by the general agreement that entitles employees to one week's training per year.

However, there is no agreement on continuing vocational training. It is not necessary in a firm of that size, in which the training requirements and wishes are discussed informally, and the employees – according to the owner – can participate in the training courses which they have an interest in and need for.

4.5 Costs of continuing vocational training (during the last five years)

Roskilde Diesel og Bremseservice A/S does not have a fixed budget for training activities, and in practice the firm's costs for training are fairly small.

In the case of Metal Industriens Efteruddannelsesudvalgs courses, which are often held during working hours, participation is free of charge. Through the AUD-fund, the labour market's training fund, the employees, participating in the training, get full wage compensation equal to 100 per cent of the highest daily allowance rate.

Webasto's product courses are mostly held outside working hours. Participation is free.

4.6 Evaluation of the costs

As the firm does not have a fixed budget for continuing vocational training, nor any substantial expenditure on training as such, they do not carry out systematic evaluations of the cost-benefit relationship.

5. Evaluation of the training concepts

5.1 Evaluation of questionnaire for employees

The questionnaires show, as mentioned before, that except for one case it is solely the owner and the son, who is a mechanic, who have participated in continuing vocational training during the period 1987–1992.

The courses in question are the ones aiming to improve special technical and occupational qualifications, e.g. diesel engines, quality of brakes, tachographs and electronic control systems.

5.2 Best practice/normal practice

It is normal practice in the firm that the employees who are interested in training courses may participate in them.

The "training plans" are drawn up by the owner who puts up a list of the courses for the near future. The mechanics discuss their needs and requirements and then inform the owner. Together they decide who is to participate in which course and when. Because of the limited size of the firm, only one employee may participate in a course at a time.

The firm's employees only participate in courses with specific technical subjects. As far as personal skills such as customer service are concerned, the owner's opinion is that this can be learnt in-house during daily work. Roskilde Diesel og Bremseservice A/S is of a size which allows the owner to have a clear impression of how each mechanic attends to the customers. If the customer service is not professional, then the owner has a talk with the mechanic in question.

5.3 Future demands for continuing vocational training

5.3.1 Need for mobility

The motor vehicle mechanics are specialized, and they perform mounting, repair and service tasks in their own specific area. However, when the situation is critical, the mechanics help each other and work together in groups.

The owner thinks this type of work distribution is good in relation to the kind and amount of tasks the firm carries out at the moment.

5.3.2 Strategy for continuing vocational training

Please refer to Chapter 4.4.5 "Requirements and plans for the future development of continuing vocational training".

6. Conclusions in relation to best practice and normal practice

Please refer to Chapter 5.2 "Best practice/normal practice".

4. VIDØ AUTOMOBILER A/S

Size of Firm: IV

Brand Name: Toyota

Category of Motor Vehicle: A

Type of Firm: C

1. General description of the case

Vidø Automobiler A/S is an authorized Toyota agent and repair shop situated in the Copenhagen area.

The case description is based mainly on a one-day visit to the firm on October 22, 1992. During the visit interviews were held with the manager, a salesman, a foreman and a motor vehicle mechanic. The visit also included a tour of the firm's many departments.

The case description is also based on information from Toyota Danmark A/S, which is a national importer of Toyota motor vehicles and contributes considerably to improving the performance of the dealer's employees. At Toyota Danmark A/S the head of the training department was interviewed.

2. General description of the firm

2.1 Major data of the firm

2.1.1 Type of firm

Vidø Automobiler A/S is an authorized Toyota agent and repair shop. The manager explains what the authorization involves:

- the firm is specialized in Toyota motor vehicles – both with regard to sales and service;
- the firm selling new motor vehicles only sells Toyota vehicles, while the firms selling second-hand motor vehicles sell all brand names;
- the firm is "secured survival" by being a sole agent of Toyota motor vehicles in a specific geographical area, the size of which is based on the potential clientele. In the area, to which the importer has assigned an agent, there must be at least a 1 per cent fleet of motor vehicles in Denmark. The firm is allowed to sell new Toyota motor vehicles in the entire Copenhagen area, but may only market within their own area. Half of the 154 new motor vehicles sold during the first nine months of 1992, was sold outside the firm's own area;
- the firm must submit their annual accounts to the importer;
- the importer inspects and makes sure that the firm improves the employees' performance on all levels, ensures the presentation and maintenance of the firm, ensures the use of modern and rational repair tools and the good service to customers. All customers receive a questionnaire from the importer, and the customers' degree of satisfaction is registered. Each dealer periodically receives a review, which shows the firm's ranking in relation to Customer Satisfaction (CS) compared with other dealers. If a firm is ranked too low in CS, the dealer will give them support. If a firm over a longer period cannot live up to the agreements, they might lose their authorization;
- the attendance of the importer's courses, training and seminars of any kind are compulsory;
- the importer gives certain delivery credit and supports a number of important activities in the firm, such as advertisements, marketing, performance improvement of the employees, it ensures productivity and quality in the repair shops, spare parts supply, and
- the importer encourages the dealer network to cooperate e.g. in marketing, by having dealer meetings in the districts.

The manager adds that he regards the importer as being "a qualified cooperative partner", who gives more service to his dealers than other large motor vehicle importers give their dealers; he is satisfied with cooperation.

2.1.2 Categories of motor vehicles

Vidø Automobiler A/S only deals in Toyota passenger motor vehicles, commercial vehicles, and spare parts.

2.1.3 Form of repair and sales

New motor vehicles: sale, repair and service of Toyota only. Secondhand motor vehicles: purchase, sale, repair and service on all brand names.

2.1.4 Location of the firm

Vidø Automobiler A/S is located in the greater Copenhagen area.

2.1.5 Size of the firm

Vidø Automobiler A/S has 21 employees.

2.2 Brief history of the firm and recent strategy and development

The manager, who had been an operational manager at a Ford agent, bought a previous agent's firm and started his own firm named Vidø Automobiler A/S in 1987. The firm has been an authorized Toyota agent and repair shop from the beginning and moved to the present location a couple of years ago.

2.

2.3 Structure of the firm

2.3.1 Organization of the firm

The firm has legal status as a limited company with the owner as the sole shareholder and manager.

The firm is made up of the management and three departments: sale, service, and administration.

The service department, or after sales services department is clearly the largest. The after sales services department is made up of 2 repair shops, mechanical and body work and spare parts/ storage. Each repair shop is headed by a foreman.

The firm performs all types of motor vehicle service and repair work on all types of brands and vehicle models, even though it is a Toyota specialist. However, paint jobs are performed by a specialized repair shop at another location.

Table 1 – Number of employees at Vidø Automobiler A/S, October 1992

Departments/categories of employees	Employees
Management	
– manager	1
Sales department	
– sales employees	1
Preparation	
– semi-skilled workers	1
Service department	
• Mechanical repair shop	
– foremen	1
– mechanics	5
– apprentices	2
• Body repair shop	
– foremen	1
– body smiths	3
– apprentices	–
• Spare parts	
– spare parts salesmen	3
Administration department	
– administration	2
– receptionists	1
Total	21

2.3.2 Occupational structure

Of the 21 employees in the firm 15 are employed in the service department. The service department is headed by two foremen, who supervise 13 employees, mainly skilled motor vehicle mechanics and spare parts salesmen, and apprentices.

2.3.3 The organization of work and work processes

The sales department is headed by the sales employee and the manager. The sales employee is authorized to sell and buy motor vehicles and enter into financial and leasing agreements with the customers. The department's main tasks are:

- appointment and meetings with customers, both internal and external;
- sale or leasing of new Toyota motor vehicles and purchase and sale of secondhand motor vehicles, including financial agreements;
- periodical contact to the commercial customers in the district;
- examination of the prices of secondhand motor vehicles on the market and adjustment of the prices of the firm's secondhand motor vehicles, and
- periodical marketing activities in accordance with the importer's dealer concepts.

Up to 1987 it was common that the firm offered to finance the difference between the sales price of a motor vehicle and the customers cash payment. Today this part of the department's work is mostly done by the banks; they do not have the same requirements in respect of the customer's cash payment as the firm's sales department has.

The service departments' two repair shops – mechanical repair shop and body repair shop – are separated from each other both in respect of location and function.

The tasks in the mechanical repair shop are performed by five skilled motor vehicle mechanics and supervised by the foreman. There is no formalized division of labour between them; each employee is capable of doing all kinds of service and repair jobs on the motor vehicles. It is a common feature that there is only one mechanic for one motor vehicle, unless the job is urgent or involves a physically difficult and unpleasant task – the so-called "dirty tasks" like e.g. big lorries. "They take turns at it". Each mechanic has his "own" tools, except for test equipment and tyre spare tools.

A customer's order is processed as follows:

- The foreman receives the order in the reception. Once it has been decided what is to be

done with the vehicle and when, the foreman fills out an order sheet for the repair shop.

- In the morning when the customers arrive with their motor vehicles, the day's order sheet is laid down. If a customer would like to have more things repaired than previously agreed, the foreman makes a note of it on the order sheet. All the day's order sheets are then put on a shelf for the mechanics, indicating the priority of the orders.

- Each mechanic fetches an order sheet belonging to the corresponding motor vehicle, and performs the service or repair tasks, which are indicated on the sheet. When the work is finished, the foreman or the mechanic checks or perhaps test drives the motor vehicle.

- The foreman delivers the repaired motor vehicle and the invoice to the customer at the appointed time.

In the body repair shop, it is the same procedure, except for the insurance formalities. When a motor vehicle has been damaged, it is delivered to the body repair shop; the foreman fills out and forwards a claim advice to the insurance firm, and then makes an appointment for the damage to be assessed. When the foreman has made an agreement with the assessor of what is to be done, the mechanics start the body repair job. When the work is finished, the invoice is sent to the insurance firm. Technical conflicts between the mechanics and body smiths "do not occur at all – even though the body smith once in a while pulls out an engine of a damaged motor vehicle in the body repair shop", says the shop foreman.

2.4 Human resources

2.4.1 Development and number of employees

Today there are considerably fewer employees in the firm than before. When the firm started in 1987 it had 29 employees, and at the end of 1992 only 21. The manager says that the decrease in the number of employees is not due to a general falling-off in the motor vehicle trade during the past few years – but first and foremost due to the fact that he took over an inefficient dealer shop with too many employees. From the beginning the firm has been "streamlined". The current number of employees is 21 and this is the number the firm can manage in future if conditions in the trade and market do not change considerably. Furthermore, with 21 employees it has a productivity surplus which it can draw on in periods with peak load; the employees are willing to work over time.

2.4.2 Labour force (age group, sex, nationality, and conditions of employment)

All employees are males, except for three in the administration department, and all work full-time (37 hours/weekly). All employees are Danes.

The length of service among the employees is low: of the 29 employees who were employed when the firm was established in 1987, only 3 are left.

The firm does not ever have to advertise or look for staff in other ways. "It is rumoured that the firm has a good reputation", says the manager.

The firm's general recruiting policy is that the employees must have "technical qualifications" – i.e. they must have attended the relevant basic vocational training, and master the trade's newest methods and techniques; the "chemistry" must be good, and they must be loyal to the firm. The employment of new employees in the service department is taken care of by the department itself; they know what they want, and they know what qualities the manager attaches importance to; the white collar workers are hired by the manager.

In this connection the manager mentions that "he has many new ideas for the firm. When they are ripe they are presented for discussion and constructive criticism is welcome".

2.4.3 Working conditions

The employment and salary conditions in the firm are as follows:

- the sales employee, the foremen and the administration department's employees are white collar workers and have a monthly salary;

- the mechanics and the body smiths are paid by the hour, plus a bonus of 25 per cent. Including the bonus, the mechanic's salary is presently DKR 110 an hour. They are guaranteed their bonus when they participate in continuing vocational training;

- the apprentices are paid by the hour according to the contract.

2.4.4 Level of education of the labour force

The employees at Vidø Automobiler A/S all have a relevant occupational background and/or relevant occupational experience. The firm has not had any difficulties in recruiting employees with the necessary qualifications.

In the service department, which has approx. 70 per cent of the firm's employees, all staff have

attended basic vocational training. In the mechanical repair shop, all employees are skilled motor vehicle mechanics, and in the body repair shop all are skilled body smiths. The foremen have furthermore supplemented their basic vocational training with courses in management. The spare parts salesmen are trained as spare parts assistants or have commercial training.

The sales department's employee, who at first was trained as a spare parts assistant, has been a motor vehicle salesman for more than 30 years; first as a salesman of Opel motor vehicles, and during the last 5 years as a salesman of Toyota motor vehicles.

The administration department's employees have commercial and/or administrative training.

3. Providers of continuing vocational training

3.1 Structure of the firm

The firm's manager is not directly involved in staff training. He receives the course plans from the providers of continuing vocational training and a periodical survey from the importer, stating which employees have participated in which course, and who have not. The organization of staff participation is the individual department's responsibility – the external courses are mainly held on the importer's premises, normally during working hours, and the firm guarantees the employees their salary during the course period.

About once a year the manager arranges a one-day meeting (Saturday) for all his employees. It is held at a conference centre, and the subjects are typically based on topics like:

- the general situation (including general information on turnover of sale and services), the results of the importer's "Customer Satisfaction" analysis, and the firm's own analysis of customer satisfaction;
- the problems which have arisen in the firm's departments – e.g. in relation to the customers;
- presentation – sometimes supported by an external consultant – for e.g. customer service and internal and external customer relations, and
- suggestions and discussions as to how each employee can improve his performance.

3.2 Structure of Customer Service Training Centres

The importer's training programme – the "Customer Satisfaction Training Programme" – plays a central role in updating and developing the qualifications of the employees in the importer's 103 dealer companies.

The training programme consists of 1) training courses, long-cycle educational programmes, and seminars of short or long duration, 2) various kinds of documentation materials. The programme is intended for sales, technical and administration personnel, and the owners of the dealer companies.

Two examples of CS educational programmes are worth mentioning, namely "CS-Training salesmen" and "CS-Training foremen".
"CS-Training salesmen" is divided into three modules with a total of 10 days:

- Module 1 (junior salesmen) covers: product know-how and basic sales. Duration 3 days.
- Module 2 (salesmen) covers: distribution and personal behaviour. Duration 3 days.
- Module 3 (salesmen) covers. Advanced sales and CS-sale. Duration 4 days.

"CS-Training foremen" is divided into four modules with a total of 12 days:

- Module 1 covers: management psychology – 3 days and management communication – 3 days.
- Module 2 covers: business administration and planning – 2 days.
- Module 3 covers: sales and customer relations – 2 days.
- Module 4 covers: law – 2 days.

Appendix A contains an overview of the CS programme of courses and training for technicians. They are primarily intended for the 444 motor vehicle mechanics, presently employed by the dealers.

With regard to the way the CS Training programme is run, the importer's fundamental attitude is one of open-mindedness towards new methods of training the dealers' employees, for instance distance learning courses and/or training at the workplace with the aid of interactive multimedia. But so far the distance learning courses and the use of technological training systems "are uninteresting to Toyota. We want to deal with real people. The Japanese work with human cultures; they want to be near the people who are learning things relevant to their job. Therefore, we use "traditional" tutors for training supported by modern training methods, audio-visual media and written material".

3.3 Structure of public centres

These course providers offer courses for the whole branch. Please refer to "The Sector Survey in the Motor Vehicle Repair and Sales Sector of Denmark".

4. Training policy of the firm

4.1 Existence of training plans or training concepts on workshop level

The thoughts of the firm on the purpose of staff training and which category of employees should participate, are not summarized in a formulated training policy, nor have they been included in a separate training budget or presented to an internal training committee for debate.

Staff training is based on three elements:

- the importer's training plan, which is sent to the firm twice a year, informing the manager which courses and training is necessary and required for the firm's different categories of employees, and when they can/ought to participate;
- the amount which the firm earmarks each year for staff training for 1992 is DKR 75,000 and
- the situation that so far employees have "been very motivated to participate in the courses", that the firm "is of a size which means that employees can talk freely together – also about training", and also that employees "must always be up-to-date and be the best". This (presumably) means that they must possess the necessary and sufficient qualifications, and must therefore participate every time an importer's course is offered which is of relevance to the firm.

Closer reading of the firm's – or rather the importer's – survey of staff attendance of the courses, however, raises the question as to whether a formulated training policy in the firm, with clear and concrete directions, would be of help to the foremen, who are in charge of the practical control of the training activities. At the same time this would meet management's intention for staff training to be undertaken to a higher degree – and at the appropriate time.

4.2 Inter-linkage of training concepts and demand

4.2.1 Analysis of required skills

Vidø Automobiler A/S does not undertake qualification analyses in the firm in order to define staff qualification needs. But the foremen "notices if any mistakes are made". The employees discuss this with their own foreman and also what they need to know more about and master better, and what particular requirements are needed. This is the basis for the choice of course. Inversely, data from the importer containing all the information on which importer courses the individual employee has participated, which courses he still needs to attend and the range of the new courses offered, plays an important role and influences the discussion. It also throws light on the employee's training requirements. As the owner put it: "Toyota Danmark is always up-to-date in all technical areas".

4.2.2 Connection between required skills and training concepts

The general impression is that the course providers currently offer the courses which satisfy the different employees' qualification requirements. This applies especially to the importer's courses which range from specific functional courses within the firm's core activities to courses in communication, management and personal development.

But it seems as if there have been periods in which it has been difficult for the firm to release the employees to participate in the planned and necessary importer courses. One employee said "Most of the new employees have not attended any courses. They are dissatisfied and have complained about it; I do not know why they have not been to a course. But I am not worried because I know that Toyota Danmark one day will say to the firm "Now you have to let them go on a course".

4.3 Target groups of training

The participants in the training courses are primarily the service department's repair shop workers. But also the spare parts salesmen and – to a limited extent – the employees in the administration department and the employees in the sales department participate in continuing vocational training.

The body smiths do not participate so much in the continuing vocational training, because the product and technology development in the body area is stretched over a longer period than in the mechanics' technical area.

The firm gives financial support to staff from the administration department since their training is held in the evening.

4.3.1 Participation in continuing vocational training courses (1987–1992)

Please see Appendix B.

4.3.2 Access to continuing training

The firm regularly receives (twice a year) catalogues with a description of courses available from Toyota Danmark, from Metal Industriens Efteruddannelsesudvalg (The Danish Metal Industries' Committee on continuing vocational training) and from the technical schools. The catalogues give an outline of the target group, aim, contents, location and duration of the courses. The importer also gives the firm information on the courses the individual employees have participated in, and which courses they still have to attend.

With regard to the courses by Metal Industriens Efteruddannelsesudvalg (the so-called ME-courses) which are usually held at technical schools, the mechanics seldom participate in

these courses. This is only the case if an employee has a requirement which is not covered by the importer.

The ME-courses differ from those of the importer's in that they last longer (1–2 weeks). They treat several motor vehicle brands (not just Toyota). Each participant treats each course task in detail and acquires the necessary skills through practical training.

The employees can also participate in other courses than those held by the importer. The body smiths have thus been able to attend courses for smoothing out motor vehicle bodies at DTI, and a few employees have participated in course activities in their spare time.

Participation in the training courses is, in principle, voluntary, but in practice necessary if the individual employee is to keep his technical skills in pace with changing qualification requirements. The employees are ensured against loss of salary during the course periods.

When the employees would like to participate a course, the procedure is simple. The white-collar workers discuss with the owner who is going to participate in which course and when; then they enrol for a particular course. The initiative can come from the employees, the owner or the importer.

In the service department the mechanic or the body smith, who would like to attend a course, asks his foreman. However, the initiative usually comes from the foreman in the particular department. He receives the importer's course plans and survey of the remaining courses. He then evaluates who needs and has time to attend a course. The foreman then makes the necessary arrangements.

The employee, who has participated in a course, receives a certificate as proof of participation from the course provider; the employee keeps the certificate. The firm does not systematically register staff attendance of the courses but the importer does.

4.4 Training plans

4.4.1 Aim of training

The overall aim of the importer's continuing vocational training is to ensure that the dealer's employees always have the necessary and sufficient qualifications to enable them to work rationally with the aid of modern methods, techniques and equipment to ensure the customers are satisfied. Hence, they continue these activities with the dealers.

The qualification requirements in the different categories of employees have changed during recent years and there are several reasons for this. One important reason is the technological progress in motor vehicles; it is dominated by the electronic control systems. The electronics regulate the motor, the transmission and make sure that comfort and safety are in order. It also reduces the need for maintenance and repair. The sales staff must be able to describe the complicated new inventions and gadgets of the motor vehicles so that the customer understands what is meant. The service and repair employees must be able to handle new working methods and techniques, trouble-shooting and repair jobs.

The increased use of electronic control systems in motor vehicles has also turned skilled repair jobs from being almost a purely mechanical area into both mechanical and electronic tasks. Basically, the electronic systems of a modern motor vehicle consist of sensors placed in the vehicles' different functional organs and a central computer. The sensors communicate information on the current condition to the central computer which processes the information and passes on orders for action to the functional organs.

Changes in laws, provisions and financial possibilities must be followed by the updating of skills, especially with regard to the sales employees.

Competition and the way in which the firm receives customers is also an area in which requirements have undergone considerable changes. It is, thus, important for the salesmen to have a thorough knowledge of the product and for them to be capable of communicating this knowledge of the product and the firm to the customer. Care must also be taken to ensure that they have full knowledge of the customer's situation and expectations which automatically leads to greater customer satisfaction.

It is important, for instance, that the foremen is capable of guiding the mechanics towards achieving the firm's aims of growth in earnings, customers and customer satisfaction, of communicating with customers, employees and management, of fulfilling the requirements for the repair shop's real mission, and of understanding and applying service and quality management as well as the legal matters and rules connected with the repair shop's daily operation.

4.4.2 Development since 1987

On the whole, the firm's general attitude towards and practice of staff training has hardly undergone any changes since 1987. However, some changes have been made in the aims and subject matters of staff training since 1987. In relation to technical and occupational qualifications, the emphasis is now on electronic control systems, quick and correct diagnosis, rational working methods and modern test equipment and tools. In more general qualifications, the emphasis is on customer relations and observance of delivery time and agreements.

4.4.3 Relation between participation in continuing vocational training courses and occupational career

It seems obvious that performance improvement through training activities is necessary in order to meet the new qualification requirements in a job and to avoid unemployment. This is also true for career prospects and calls for more competence and responsibility.

4.4.4 General description of continuing vocational training systems

For a detailed description of the structure of the continuing vocational training system within the motor vehicle sector, please see the Sector Survey in the Motor Vehicle Repair and Sales Sector in Denmark. The continuing vocational training courses offered by Toyota Danmark are described in Chapter 3.2. and Appendix A.

4.4.5 Requirements and plans for the future development of continuing vocational training

When asked, the managers and other employees viewed the firm's training activities as positive – in reality these are the importer's courses. "They keep pace with developments and cover the qualification requirements well".

But it is a problem for 1. the foreman in a mechanical repair shop to send an employee to a course when they are busy, "it reduces capacity by 25 per cent" – and 2. the employees who do not attend courses which the importer offers and which they need. As one employee said, "The firm ought to be more willing to send us on a course. I do not know why we haven't attended courses for a long time but I do expect to participate in the courses which Toyota Danmark says I must attend". Another employee thinks that "the communication between the departments is not good enough. New information is not spread quickly enough. Not enough meetings are held in the firm at which there could be an exchange of information and experience with e.g. technical specifications in new motor vehicle models. In times when people are nervous/insecure about their jobs, people tend to keep their know-how to themselves".

With regard to ideas, demands and plans for future training activities in the firm, the owner feels that the present system functions satisfactorily and covers the requirements sufficiently. "We want to give the best service in all respects – the overall Toyota aim is to be the best in all national markets in 1993".

The basic vocational training which is provided in the firm is the main kind for which there is a need in the motor vehicle trade. This is basic vocational training of motor vehicle mechanic apprentices, body smith apprentices, and trainee clerical assistants.

4.4.6 Curriculum concept

Objectives, contents and target groups in the importer's courses are determined by four factors: 1. the demand that Toyota must be No. 1 in customer satisfaction and in its market share in Denmark, 2. developments in the motor vehicle industry, including the new technology used in the motor vehicles, 3. developments of test equipment and tools, used in the repair shops for maintenance and repair tasks, and 4. the different employees' background and technical qualifications. "We have a clear picture of who is going to learn what at our dealers".

The aim and contents of the ME courses are determined by the general development trends in the motor vehicle trade.

4.4.7 Who carries out the continuing vocational training courses?

Vidø Automobiler A/S almost only uses the importer's courses. Metal Industriens Efteruddannelsesudvalgs courses and body work courses are used as well.

Staff in the administration department have the possibility of participating in courses, e.g., in EDP and accountancy at commercial schools during their spare time.

In order to promote uniform understanding of the firm's concept of customer service and quality and in order to create a "firm philosophy", the firm arranges an external course for all employees once a year. With the assistance of (an) external lecturer(s) they keep a dialogue going between management and employees, and among the employees themselves.

4.4.8 Principles of preparation of continuing vocational training programmes

It is mainly Toyota Danmark, Metal Industriens Efteruddannelsesudvalg and perhaps a few course providers, who individually define the training requirements and develop and plan the continuing vocational training courses with regard to topics, contents, time and place.

The owner is a member of the board in Motorbranchens Arbejdsgiverforening (Danish Motor Vehicle Industry's Employers' Association). He gains an impression of what is happening in the motor vehicle trade, and has the chance of influencing the trade's training possibilities and development.

4.4.9 Customer service training centres

It is in the importer's interest that the dealers are good at selling Toyota motor vehicles and are able to service and repair the motor vehicles rationally to the customers' satisfaction. The importer, therefore, sees it as an important task to support the professionalism of the dealers' management and

employees in line with the developments within the motor vehicle industry. There are three ways of doing this:

- the firm's and employees' development:
  primarily through training activities for management and the other categories of employees. These courses are held at the importer's training centres;

- development of working methods and equipment:
  to help the dealers' repair shop workers in particular make the right diagnosis and work rationally with the aid of modern test equipment;

- utilization of the newly acquired knowledge and skills in day-to-day practice in the firms: it is a matter of "a willingness to change and the owner's role in this connection". The importer gives the dealers a diagram so that they can help the employees, who have attended a course, to transfer and utilize the material they have learned.

4.4.10 Principles of pre-qualification of staff prior to launching products

Toyota Danmark runs courses on new models for salesmen, foremen and motor vehicle mechanics. It is important to the dealer that the employee(s), who (has)have participated in these "information" courses, immediately pass(es) on the technical specifications to all employees/colleagues who have a particular interest. But the importer "does not expect that this will happen. All employees must, therefore, participate in the importer's courses".

Vidø Automobiler A/S is sent a catalogue twice a year from the importer informing the manager about the forthcoming courses in new motor vehicle models.

4.4.11 Changes in the training concept as result of new technologies

Given the technological developments in the motor vehicle industry, including the increasing use of electronic control systems over the last few years, efforts are made to keep all the dealers' employees up-to-date by way of the importer's courses. This will ensure that the repair shops will always make the correct diagnosis and work professionally and rationally with the aid of modern equipment and tools.

4.4.12 Participation of social partners and trade associations

The employees can express their wishes as to the courses they would like to attend, based on the course plans which the firm has received from the importer, Metal Industriens Efteruddannelsesudvalg and other course providers. The employees have no direct influence on the planning of the courses.

The owner and managers of Vidø Automobiler A/S might, however, be able to exert some influence on which subjects are included in the importer's courses. On the initiative of the dealers' association, a committee has been appointed. It examines the training requirements of various staff categories. Motorbranchens Arbejdsgiverforening, in close cooperation with the association's members, has developed a new training course for foremen for which the association believes there is a great need. This management training, which is similar to the importer's foreman training, has four 2-day modules covering collective agreements, customer contacts, practical supervision, economics and law.

The contents and topics of the Metal Industriens Efteruddannelsesudvalg courses, which are state financed and managed, are laid down by the labour market partners. Please refer to the Sector Survey of the Motor Vehicle Repair and Sales Sector in Denmark.

4.4.13 Collective agreements on continuing vocational training within the firm

Vidø Automobiler A/S does not have any agreement with the employees on continuing vocational training. However, the skilled workers who are organized in Dansk Metalarbejderforbund, the Union of Metal Workers in Denmark, are covered by the general agreement that entitles employees to one week of relevant continuing vocational training per year.

4.5 Costs of continuing vocational training (during the last five years)

Vidø Automobiler A/S does not have any fixed budget for training activities. However, they do earmark an amount of DKR 75,000 – 150,000 of the annual budget for staff training.

The importer's technical courses are available free of charge to the firms, whereas the importer's other courses and training must be paid for. The firm covers all employees' expenses: wages, travel expenses and accommodation.

The courses provided by Metal Industriens Efteruddannelsesudvalg are supported financially by the AUD fund, the labour market's training fund. This means that no course fee is paid and the participating firms get full wage compensation equal to 100 per cent of the highest daily allowance rate.
The firm must pay other course activities themselves.

4.6 Evaluation of the costs

They regard the requirements as sufficient. The firm's general attitude is that the employees should participate in continuing vocational training activities which are necessary in order to ensure the customers return to do business with Vidø Automobiler A/S.

5. Evaluation of the training concepts

5.1 Evaluation of questionnaire for employees

The importer's technical courses, which the mechanics attended covered the following subjects:

- petrol injection systems
- types of carburetters
- emission control systems
- braking systems, ABS
- diesel engines, pumps and injectors
- Toyotronic testers
- electrotechnics
- electronics, and
- cylinder and bearing measurement

The importer's non-technical courses, which the mechanics have attended, covered the following subjects:

- personal quality in work, and
- customer service

The foremen attended the following non-technical importer courses:

- seminars for foremen
- personal quality, and
- customer service

5.2 Best practice/normal practice

Continuing vocational training is becoming increasingly important for the dealers' employees, especially in after-sales service. This statement must be seen in the light of the fact that the Toyota agents make their money in the after-sales market and that customers choose the dealer who offers the best after-sales service, i.e. current service check-ups and repairs. Please also refer to Chapter 4: Training policy of the firm.

5.3 Future demands for continuing vocational training

5.3.1 Need for mobility

It is a "must" for the firm that all employees in the repair shops are competent to perform all kinds of service and repair jobs on modern motor vehicles. It makes the firm more flexible when planning service check-ups and repair jobs, just as the customer feels more secure knowing only one mechanic has serviced his motor vehicle. The demand in future will be for a greater degree of multi-skilling amongst motor vehicle mechanics.

5.3.2 Strategy for continuing vocational training

The motor vehicle mechanics expressed the wish that all mechanics should be able to attend the Toyota Danmark courses which are specifically offered to them, preferably as soon as possible.

6. Conclusions in relation to best practice and normal practice

Vidø Automobiler A/S uses the importer's courses almost exclusively for the continuing vocational training of salesmen, foremen and motor vehicle mechanics. The courses are considered very positive and satisfy the qualification requirements.

There are no formalized systematic training plans in the firm; development of courses and planning of staff participation are undertaken by the importer. Vidø Automobiler A/S staff make their own decisions and discuss with the owner/foremen which staff member would like and needs to attend the courses which are offered by the dealer. In the service department, it is standard practice for the foreman to recommend an employee for a training course when and if there is time for it.

The owner of the firm and the managers may make suggestions and comments on the importer's range of training courses. However, in general, the importer's courses are developed and carried out at a standard speed which enables the dealers to provide customers with a qualified service, both for sales and service thus encouraging customers to purchase their next motor vehicle from them too.

In addition to the importer's wide range of courses and training for the dealer's managers and employees, Motorbranchens Arbejdsgiverforening has developed a new management training course for foremen in the motor vehicle sector. The training has been developed in close cooperation with the association's members and aims to meet the new and increasing demands made on managers in the motor vehicle trade.

The ME-courses are developed centrally by the labour market partners in line with general developments in the trade. The courses are technical and can supplement the importer's courses.

With regard to future training efforts, the importer stresses:

- "the time horizon in the Toyota group for courses and training is only 1 year";
- the general impression is that there is lack of training among the motor vehicle trade's salesmen and foremen; "The foremen do not, for example, spontaneously tell the customer what is to be done with the vehicle and what it will cost";
- "we have a clear picture of who is going to learn what" (in the motor vehicle trade), but the biggest problem is the practical application of what has been learnt and the manager's follow-up thereof;

2.

- it will be necessary to have far more continuing vocational training in the future because competition will become even fiercer in the motor vehicle trade when it comes to recruiting the limited number of new employees available in the labour market and because the motor vehicle trade does, perhaps, have an image problem.

APPENDIX A

A : BEN 2 (1 day)
EFI theory, L-Type and D-Type
Fuel pump, pressure regulator, injectors.
Practical work. Measurement of fuel, pressure and injection volume.
Use of SST.

B : BEN 3 (2 days)
TTCCS theory, L-Type and D-Type.
ESA theory.
Function of sensors.
Practical measurement and diagnostic.
Practical work on TCCS board and EFI simulator.
TWC.

C : ECS 1 (1 day)
Emission Control Systems.
The concept of the gasolene engine.
Exhaust emission.
TWC and OX-sensor.
EVAP and EGR-system.

D : BRE 1 (1 day)
Brake system.
Theory of basic components including LSP-BV.
Theory of ABS components.
Practical work on actual motor vehicles, tyres and wheels.
Wheel balancing in practice.

E : DIE 1 (1 day)
Diesel-theory.
C – L – B – H type engines.
Injection Pump, in-line and distr.-type.
Injectors.
Practical work on injectors and injection timing.
Measurement on glow-systems.

F : ELE 1 (2 days)
Fundamentals of electricity.
Voltage – current – resistance.
Ohm's Law.
Voltage drop.
Loads connected in series and parallel.

G : ELE 2 (2 days)
Fundamentals of electronics.
Theory of basic components.
Practical work on electric boards like the electricity master.

H : ELE 3 (2 days)
Summary of fundamental electricity and fundamental electronics.
Practical work on body wiring board, TCCS board and EFI simulator.
Use of EWD in theory and practice.

I : TOY 2 (1 day)
Toyotronic 2000 Tester.
Practical work on actual motor vehicle.

J : UDM 1 (1 day)
Measurement of cylinder bore diameter.
Measurement of piston and oil clearance.
Measurement of crankshaft bearing oil clearance.

K : MTM 1 (2 days)
Manual transmission/transaxle.
Construction and function.
Troubleshooting.
On vehicle inspection.
Transaxle overhaul.

L : VRF 4/VRF 5 (2 days)
Workshop Manager Seminar.

M : KAR 3 (3 days)
Training for bodywork repair shop technicians.
Step 1:
Fundamental body repair.
Use of body repair manuals.

N : KAR 4 (4 days)
Training for bodywork repair shop technicians.
Step 2:
Advanced body repair.
Body repair in motor vehicle – bench.
Final body repair prior to paintshop.

R : ATM 1 (2 days)
Hydraulic automatic transmission/transaxle.
Theory of basic component groups.
Dismantling/assembly of transmission.
Dismantling/assembly of planetary gear unit and valve body.

S : ATM 2 (1 day)
ECT-type automatic transmission/transaxle.
Theory of electronic control system.
Diagnosis and test driving.
Troubleshooting and inspection.

O : SSTY 1 (1 day)
Steering system.
Theory and steering system.
Practical work on power-steering.
Dismantling/assemble of power-steering.

P : LEXUS 1 (5 days)
NCF on Lexus LS400.
Theory of basic main components.
Practical work on LS400 simulator, actual motor vehicle and components.

P : LEXUS 2 (5 days)
Theory of test equipment.
Practical use of tester on actual motor vehicle.

P : LEXUS 3 (5 days)
Follow-up items from LEXUS 1 and LEXUS 3 in theory and practice.

APPENDIX B

2.

4.3.1 Participation in continuing vocational training courses (1987-92)

Table: Number of course days per employee and year in mechanical repair shop

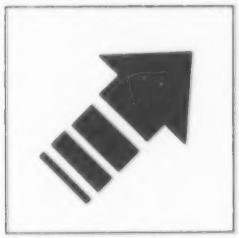
Mechanic no (employment year)	1987		1988		1989		1990		1991		1992		
	TC	N-TC	TC	N-TC	TC	N-TC	TC	N-TC	TC	N-TC	TC	N-TC	
1148 (1982)	–	3	–	–	1	–	1	2	2	–	–	–	Employed
2093 (1985)	1	–	–	–	–	–	–	–	–	–	–	–	Retired
2819 (1984)	1	3	1	–	–	–	–	–	–	–	–	–	Retired
2825 (1982)	–	3	–	–	–	–	–	–	–	–	–	–	Retired
2826 (1987)	–	3	–	–	–	–	–	–	–	–	–	–	Retired
2827 (1987)	–	–	1	3	1+2	–	1+1+2	2	1	–	–	–	Employed
3195 (?)	–	–	1+1+1	3	2	–	–	–	–	–	–	–	Retired
3358 (1988)			1	3	1+1+2	–	1+1+2	2	1+2+1	–	–	–	Retired
3441 (1988)				3	1+2	–	1+1	2	–	–	–	–	Employed
3828 (1989)					–	–	–	–	–	–	–	–	Retired
4333 (1990)							–	–	–	–	–	–	Employed
4334 (1990)							–	–	–	–	–	–	Employed
Foremen (1986)	–	3	–	2	–	2	–	2	–	3+3+2	–	–	Employed
Foremen assistant (1988)			–	3	–	–	–	2	–	2	–	–	Retired

Abbreviations:
TC: Importer's technical courses
N-TC: Importer's non-technical courses
1 course day is equal to 7 working hours. The average number of course hours per Toyota-mechanic are on a national basis 23.5 hours in 1992, which correspond to approx. 3 course days.

Source: Vidø Automobiler A/S and Toyota Danmark A/S

TRENDS

PART 3:



Summary/closing chapter

SUMMARY/CLOSING CHAPTER

3.

1. Trends in the economy, employment and training

The Danish motor vehicle sector employs approx. 2 per cent of the total Danish workforce. The employees within the sector are mainly skilled workers, they are relatively young and only very few are women. The sector is highly sensitive to market fluctuations. The economic recession in recent years has led to a steady fall in turnover and a loss of jobs within the sector.

Growing competition in the last few years in the motor vehicle industry has led to increasing emphasis on customers. There is increasing awareness that the repair shops' total competence, including after-sales service, diagnosis and quicker troubleshooting are all elements which are essential for keeping customers loyal. Therefore, continuing vocational training for individual employees is considered to be of increasing importance.

The importers' continuing vocational training courses are particularly relevant. Only authorized motor vehicle dealers and their employees have access to the importers' courses. Training courses are planned once a year. During recent years the style of course has changed since fewer employees are allowed to participate in the courses. The 'chosen few' communicate what they have learned during the course to their colleagues.

The public continuing vocational training courses are aimed only at repair shops, i.e. passenger motor vehicle mechanics, truck mechanics, body repair workers and foremen.

2. Normal practice and best practice

Normally, sales and administration as well as repair and maintenance are separated from each other. The mechanical repair shop and the body repair shops are separate, too. The work process may be described roughly as follows:

1. Order booking:
A foreman, the owner or other administrative employee takes a client's order, diagnoses the problem, settles the date of delivery and sometimes the price and fills in an order sheet.

2. Delegation of the order:
The foreman or other administrative employee assigns the task to a mechanic in line with his specific ability and free capacity.

3. Execution of order:
For special jobs, e.g. electronics, the mechanics in a department may be divided into specialities but more often the mechanics are multi-skilled mechanics who can handle all jobs. The division of work may be either 'one man – one job' or smaller teams doing all jobs on a vehicle, especially if time is short.

There appears to be an understanding that a not too high degree of specialization helps to maintain the broadness of the mechanics' qualifications and to increase the flexibility of the repair shops. Sharp competition has intensified the focus on customers.

3. Problems

Generally speaking the Danish motor vehicle sector is suffering from a fall in earnings and this is due to two main factors: the sale of new motor vehicles has decreased and the amount of repairs and service jobs has become even smaller with the application of new technology in the vehicles. On completion of their apprenticeship, trainees find it very difficult to stay in the sector; they are normally fired once they have finished their apprenticeship training.

On the one hand, the employers complain about the employees not being willing to participate to a sufficient degree in continuing vocational training courses in their spare time, on the other hand, the employees complain that there is not enough time (lack of staff) to attend continuing vocational training.

The possibilities of continuing vocational training vary considerably in the motor vehicle sector. Only authorized dealers and authorized repair shops (brand name repair shops) have access to the importers' courses.

The brand name repair shops have training schemes for their employees. The schemes are coordinated with the importers' course offers. Thus, the technological content of the courses is ensured a high degree of relevance and topicality. The courses are aimed primarily at specific technological needs, but the pressure of competition means there is also a need to focus on sales and customer relations. The repair shops, themselves, only bear a small proportion of the total direct costs for continuing vocational training. The importers pay for the technological part of the courses. The understanding is that the importers' courses, especially their 'new' courses are 'compulsory' for at least one employee from each dealer. The dealers and their employees are willing to participate, the problem is that the importers do not have sufficient capacity to meet the dealers' interest in their courses.

The repair shops do not have to bear any costs when participating in public continuing vocational training courses since the repair shops receive partial wage costs compensation. This may explain why, traditionally, no systematic estimates have been made of the cost-benefit ratio. The latest collective bargaining agreement stipulates that each employee is entitled to at least one week of continuing vocational training per year. Despite

this, public continuing vocational training activities have been decreasing over the last few years.

4. Reality and perspectives of employment

The increased competition in the motor vehicle sector has not yet led to increased concentrations of businesses. However, a reduction in the number of distributor outlets and repair shops is expected. The same goes for the number of employees in the Danish motor vehicle sector. The increased application of technology in products, production and repair jobs calls for continuous upgrading of employees' skills. It is assumed that the need for more expensive and complex machinery and equipment for repair jobs and maintenance will grow and that the employees' occupational skills must be upgraded in parallel. The need for continuing vocational training will increase as the product cycle becomes shorter and shorter.

It is generally accepted that the brand repair shops will cope best with competition because through their relationship to the producers they have immediate access to know-how on troubleshooting and repair jobs. On the other hand, however, only a limited part of the diagnosis and repair jobs require highly specialized know-how. Therefore, the all-round repair shops will continue to be competitive as their cost structure differs from that of the brand name repair shops.

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CEDEFOP – European Centre for the Development of Vocational Training

Training in the motor vehicle repair and sales sector in Denmark
(FORCE programme)

Jan Knoblauch, Niels Sørensen, Karsten B. Andersen

Luxembourg: Office for Official Publications of the European Communities

1995 – 72 pp. – 21 × 29.7 cm

ISBN 92-826-9689-8

Price (excluding VAT) in Luxembourg: ECU 8

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Price (excluding VAT) in Luxembourg: ECU 8

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